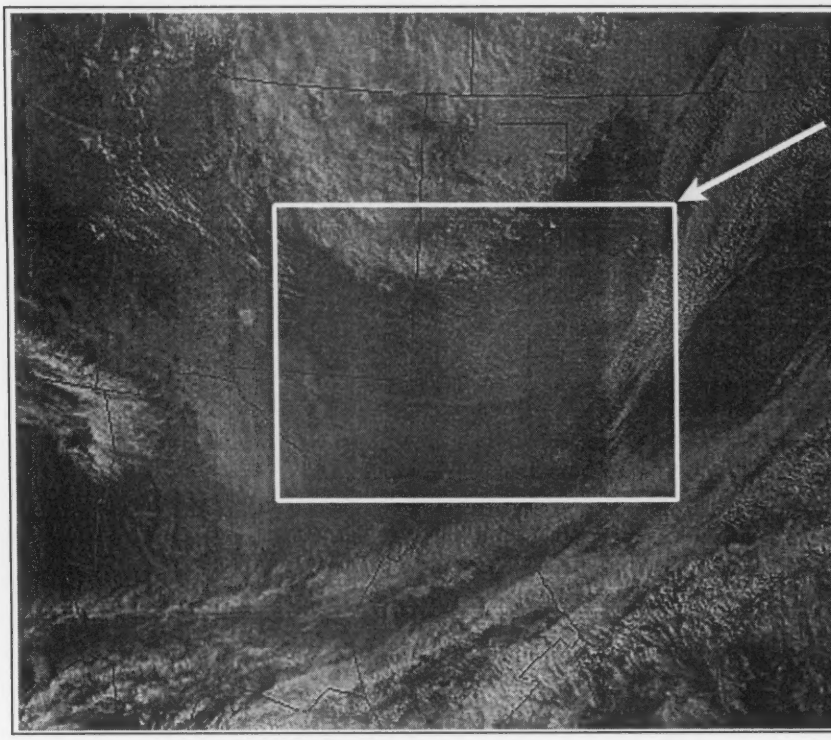
Volume 90, No. 51 http://www.usda.gov/oce/waob/jawf/wwcb.html December 23, 2003

WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service
and World Agricultural Outlook Board



GOES-12 Visible Satellite Image, 3:55pm CST (2155 Z) on December 15, 2003. A wind and dust storm swept across the southern High Plains on December 15, lowering visibilities to as little as one-quarter of a mile. Areas in and near Lubbock, TX, where wind gusts from 50 to 65 mph were common, were especially hard hit by the storm. A peak gust to 62 mph was clocked in Lubbock, while the nearby town of Morton, TX reported a gust to 67 mph. Once aloft, the dust was transported northeastward in advance of a cold front. Later on December 15 and into the next day, reports of reddish or "muddy" rain were received across the middle Mississippi Valley and into the Great Lakes region, as far northeast as lower Michigan.

HIGHLIGHTS

December 14 - 20, 2003

Highlights provided by USDA/WAOB

Stormy weather gradually subsided in the **East**, but early- and mid-week storm systems produced additional heavy rain and snow from the **Mid-Atlantic States into New England**. In the latter region, heavy rains falling on a melting snow pack caused widespread flooding at mid-week. Meanwhile, another round of cold air trailed scattered showers across the **Southeast**. In **Florida's citrus belt**, below-normal temperatures helped to condition trees against increasingly cool weather. By Sunday, December 21, scattered temperatures near the freezing mark were noted as far south as the **northern Everglades**, although adverse effects on citrus and other winter agricultural

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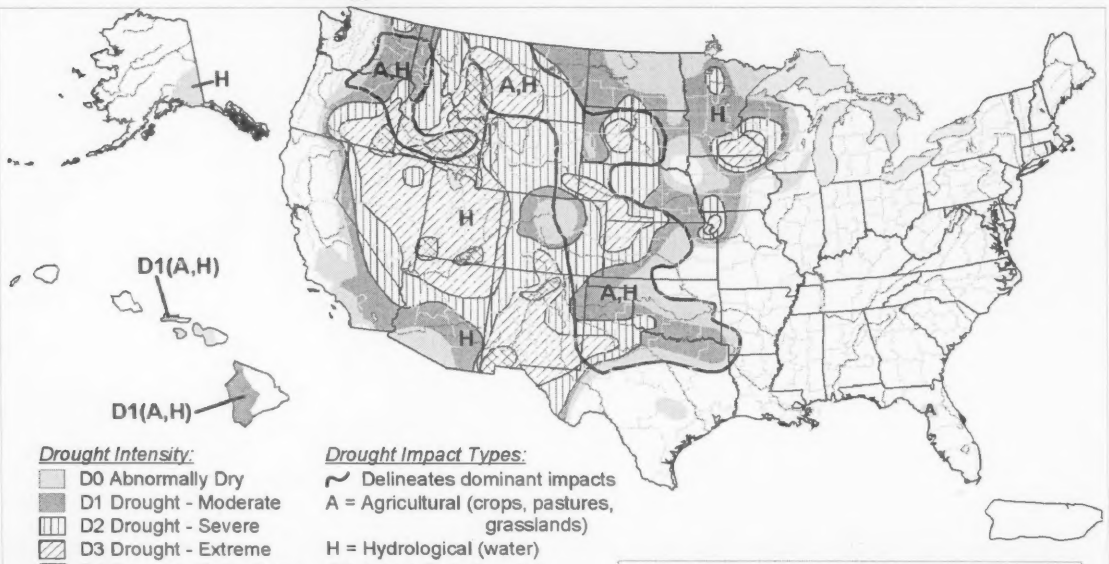
U.S. Drought Monitor

December 16, 2003
Valid 7 a.m. EST



Drought Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:
- Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)
- (No type = Both impacts)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

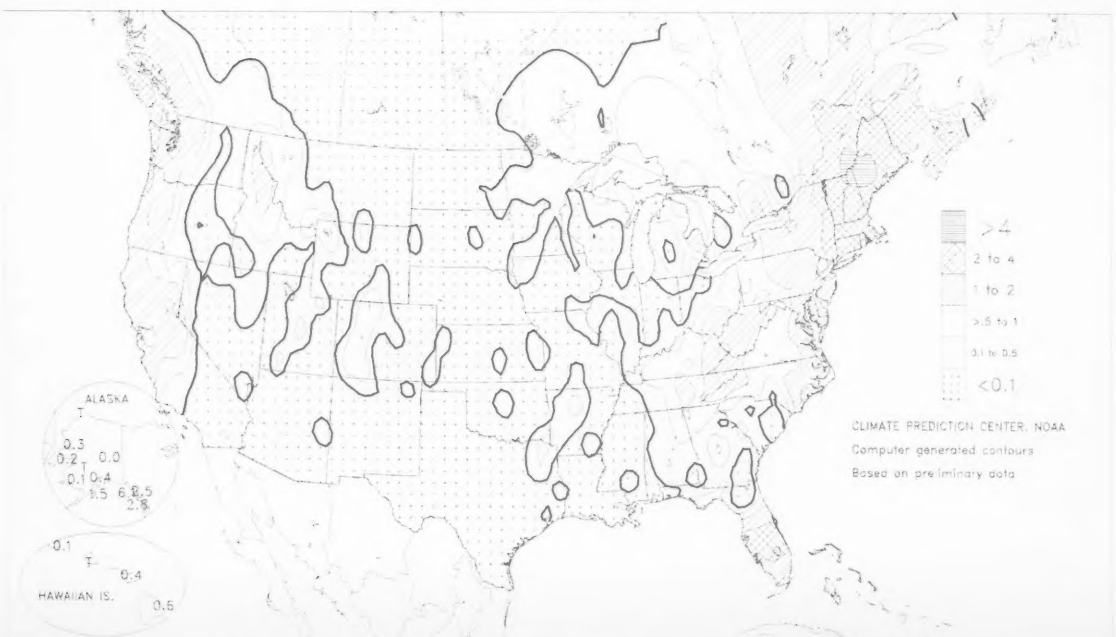
http://drought.unl.edu/dm

USDA National Drought Mitigation Center

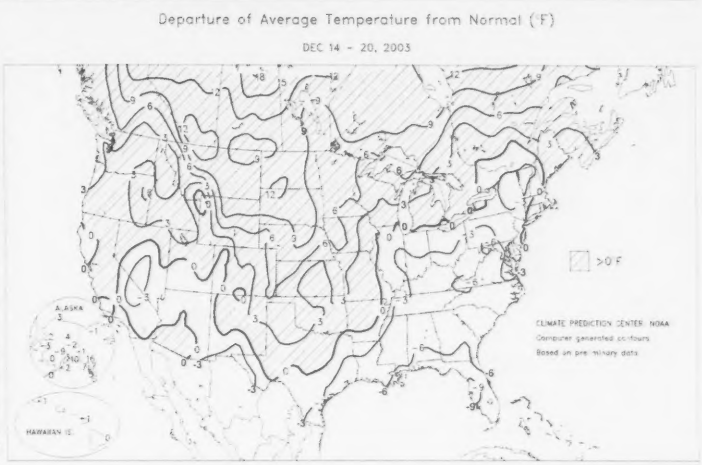
Released Thursday, December 18, 2003
Author: David Miskus, JAWF/CPC/NOAA

Total Precipitation (Inches)

DEC 14 - 20, 2003



(Continued from front cover)



interests were minor. Farther west, cold air briefly overspread winter agricultural areas in **southern Texas**, although no significant freezes were reported. In the **Midwest**, a late-week warming trend across the **western Corn Belt** contrasted with cold weather and snow showers downwind of the **Great Lakes**. Any remaining fieldwork in the **eastern Corn Belt** will have to wait until fields completely freeze. Farther west, late-week warmth and winds eroded winter wheat's protective snow cover on the **northern and central Plains**, while extremely dry conditions persisted on the **southern Plains**. On December 15, a dynamic low-pressure system briefly produced blizzard conditions on the **central High Plains** and sparked a wind and dust storm on the parched **southern High Plains**, maintaining severe stress on pastures and winter grains. Mild, mostly dry weather returned to areas from the **Rockies westward**, following a brief period of unsettled weather that boosted **Western** snow packs. Elsewhere, **Northwestern** winter grains continued to benefit from recent soil moisture improvements. Weekly temperatures averaging 6 to 14°F above normal on the **northern Plains** contrasted with readings as much as 10°F below normal in **Florida**.

Early in the week, heavy precipitation fell throughout the **East**. Daily precipitation records for December 14 included 3.07 inches in **Sarasota-Bradenton, FL**, 2.25 inches in **Wilmington, NC**, and 1.70 inches in **Norfolk, VA.** Meanwhile, daily-record snowfalls were observed in locations such as **Pittsburgh, PA** (7.3 inches), and **New York's Central Park** (5.8 inches). **Pittsburgh's** month-to-date snowfall (through December 20) reached 20.4 inches, marking its snowiest December since 21.2 inches fell in 1974. On December 15, extremely heavy snow blanketed parts of **Maine**, where daily-record totals included 27.1 inches in **Caribou** and 16.0 inches in **Bangor**. **Caribou's** total represented its greatest December daily snowfall (previously, 19.4 inches on December 3, 1989) and second-snowiest day on record behind 28.6 inches on March 14, 1984. Meanwhile in **Vermont**, **Burlington** received 18.8 inches on December 14-15 and 10.2 inches on December 17-18, boosting its month-to-date snowfall to 49.6 inches. In **Burlington's** history, the only 2 months to feature higher snowfall totals were December 1970 (56.7 inches) and December 1969 (50.8 inches). Closer to the **Atlantic Coast**, however, much of the December 17-18 precipitation fell in the form of rain. In **Piscataquis County, Maine**, 24-hour rainfall included 3.44 inches in **Greenville** and 2.06 inches in **Dover-Foxcroft.**

Due to the persistence of wet weather in the **East**, annual precipitation records were further demolished in locations such as **Virginia's Dulles Airport** (65.31 inches, or 160 percent of normal through December 21; previously 59.05 inches in 1972), **Bristol, TN** (64.84 inches, or 161 percent; previously 54.50 inches in 1950), and **Greensboro, NC** (61.76 inches, or 148 percent; previously 57.95 inches in 1901). January 1 - December 21 totals of 61.88 inches (152 percent of normal) in **Baltimore, MD**, and 60.22 inches (157 percent) in **Washington, DC**, were nearing the cities' 1889 records of 62.35 and 61.33 inches, respectively. Meanwhile in **West Virginia**, **Charleston's** year-to-date sum of 60.29 inches (140 percent of normal) stood just 0.18 inch shy of its 1950 standard. In contrast, **Lubbock, TX**, netted only 8.83 inches (48 percent of normal) from January 1 - December 21, leaving a distinct possibility that the city will experience its second-driest year on record. Currently, **Lubbock's** second-lowest annual precipitation total is 9.45 inches in 1924.

On December 15, high winds sweeping across the **southern High Plains** lowered visibilities in the vicinity of **Lubbock** to as little as one-quarter mile in blowing dust. **Lubbock** clocked a peak wind gust to 62 m.p.h., while other December 15 gusts on the **Texas High Plains** included 67 m.p.h. near **Morton** and 65 m.p.h. near **Plains**. Farther north, **Colorado Springs, CO**, netted a 0.3-inch snowfall on December 15, accompanied by wind gusts to 56 m.p.h. Wild temperature fluctuations were common in **Colorado** and elsewhere on the Plains. In **Pueblo, CO**, highs reached 70°F on December 17 and 20, but lows dipped to 1°F on December 16 and 8°F on December 19. Farther west, daily-record lows on December 16 included -11°F in **Wells, NV**, and 28°F in **Santa Barbara**, CA. Just 2 days later, however, daily-record highs were set or tied in locations such as **Mt. Wilson, CA** (71°F), and **Seattle, WA** (54°F). Toward week's end, warmth overspread the **High Plains**, where record highs for December 20 included 68°F in **McCook, NE**, and 54°F in **Cut Bank, MT.** Meanwhile, cold weather settled into the **East**, resulting in additional snowfall downwind of the **Great Lakes**. In **New York**, **Syracuse's** weekly snowfall reached 32.6 inches, including 13.0 inches from December 17-20. Farther south, **Gainesville, FL** (22°F), notched a daily-record low for December 21, while lows elsewhere in Florida on Sunday morning included 21°F in **Brooksville** and 33°F in **Ruskin**. **Immokalee, FL**, in the **northern Everglades**, reported a low of 32°F.

Highly variable temperatures—ranging from about 10°F below normal to 10°F above normal—prevailed across **Alaska**, in part because mild conditions overspread **southeastern parts of the State**. Meanwhile, some cold air remained trapped across the **interior Alaska**. Precipitation was locally heavy in **southeastern Alaska** but generally light elsewhere across the State. Weekly (December 15-21) snowfall totaled 18.9 inches in **Anchorage**, including a daily-record total of 5.3 inches on December 21, while weekly precipitation reached 9.31 inches in **Yakutat**. Farther south, **Hawaiian** weather featured a return to tranquility, following frequently heavy downpours in late November and early December. Only scattered showers across the **western and central Hawaiian islands** at midweek interrupted the quiet weather pattern. On December 16-17, 24-hour rainfall totals included 2.23 inches in **Kokee, Kauai**, and 1.03 inches in **Kahakuloa, Maui**.

Weather Data for Mississippi and the Missouri Bootheel

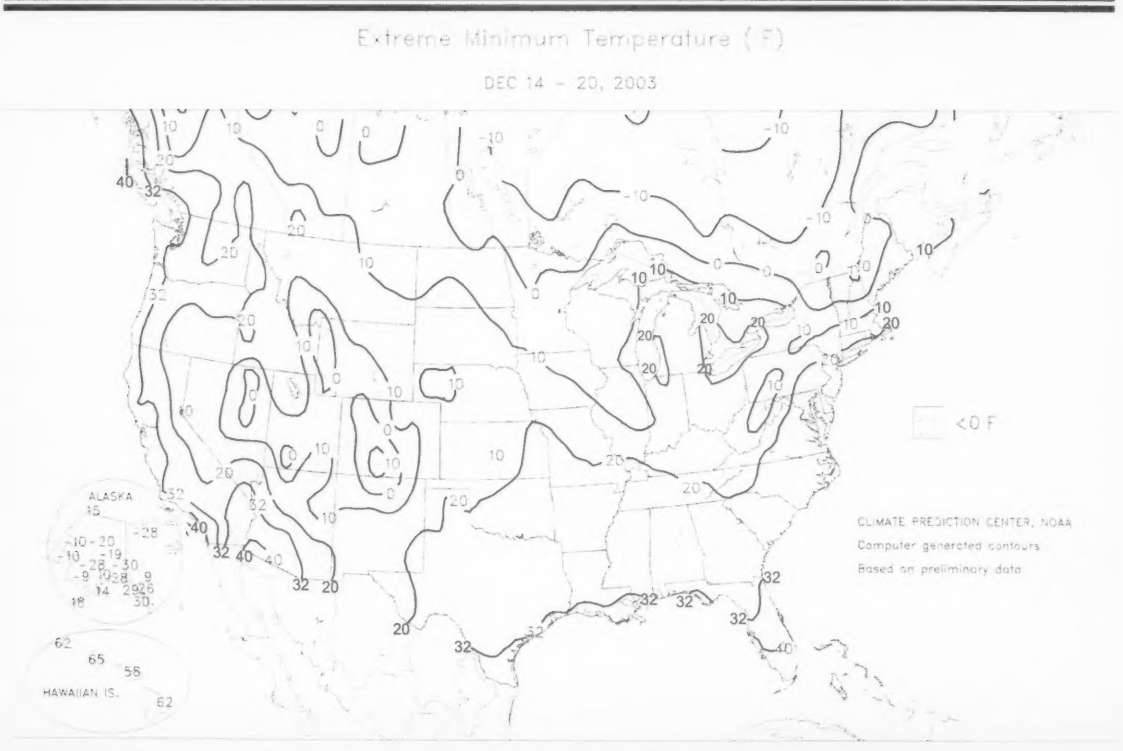
Weather Data for the Week Ending December 20, 2003

Data provided by the Mississippi State Delta Research and Extension Center (DREC), the Southern Regional Climate Center (SRCC), and the University of Missouri.

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							4-INCH SOIL TEMP, °F		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL IN. SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL IN. SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
MS	INDIANOLA 1S	53	34	59	30	43	-	0.06	-	0.06	1.25	-	42.63	-	-	-	0	2	1	0
	INVERNESS 5E	53	34	60	28	44	-	0.11	-	0.11	0.94	-	39.48	-	50	39	0	2	1	0
	LYON	52	33	58	29	43	-	0.01	-	0.01	1.02	-	45.52	-	48	42	0	3	1	0
	MACON	53	32	64	28	43	-	0.00	-	0.00	1.61	-	55.39	-	49	42	0	5	0	0
	ONWARD	56	33	63	29	44	-	0.05	-	0.05	0.90	-	-	-	51	45	0	4	1	0
	PERTHSHIRE	52	33	57	28	43	-	0.02	-	0.02	1.26	-	45.98	-	46	41	0	2	1	0
	SCOTT	54	35	59	29	44	-	0.01	-	0.01	1.83	-	-	-	-	-	0	2	1	0
	SIDON	55	35	61	29	45	-	0.06	-	0.06	1.08	-	39.51	-	51	39	0	2	1	0
	STARKVILLE	51	30	57	25	41	-4	0.00	-1.15	0.00	1.27	39	56.41	105	47	42	0	5	0	0
	TUNICA 1W	51	31	57	26	41	-	0.01	-	0.01	1.32	-	-	-	-	-	0	5	1	0
	VANCE	51	31	58	25	41	-	0.06	-	0.06	1.26	-	-	-	-	-	0	4	1	0
	VERONA	50	30	55	24	40	-	0.04	-	0.04	1.44	-	53.70	-	47	38	0	5	1	0
	STONEVILLE [x]	53	33	60	29	43	-2	0.25	-0.95	0.15	1.37	39	43.25	84	50	41	0	3	3	0
MO	DELTA	44	27	51	20	36	0	0.13	-0.67	0.13	0.62	23	42.29	94	39	35	0	6	1	0
	STEELE	48	30	55	24	38	0	0.12	-0.91	0.12	0.99	29	50.62	103	42	37	0	6	1	0
	GLENNONVILLE	46	29	53	23	37	-1	0.04	-0.79	0.04	0.79	32	34.72	81	41	36	0	6	1	0
	PORTAGEVILLE LF	46	30	54	26	38	1	0.16	-0.77	0.16	0.87	30	47.18	101	44	36	0	6	1	0
	CLARKTON	46	29	53	22	37	-1	0.18	-0.65	0.18	0.76	31	41.75	98	42	38	0	6	1	0
	CARDWELL	47	31	54	26	39	1	0.11	-0.80	0.10	0.87	28	50.76	104	44	39	0	6	2	0
	CHARLESTON	44	27	54	21	36	1	0.15	-0.82	0.14	0.77	25	43.12	91	42	36	0	6	2	0
	PORTAGEVILLE DC	46	30	54	26	38	0	0.10	-0.83	0.10	0.82	29	44.37	95	44	36	0	6	1	0

Compiled by USDA/OCE/WAOB's Stoneville Field Office. [x] Based on 1971-2000 normals. - Sufficient data not available.

Weather and Crop Summary: Cool, mostly dry conditions prevailed. In the wake of a departing cold front, light precipitation lingered early in the period, followed by additional light rain at midweek. Most soils dried due to low humidity, minimal rainfall, and gusty north winds. Winter wheat and pastures were growing as expected.



National Weather Data for Selected Cities

Weather Data for the Week Ending December 20, 2003

Data Provided by Climate Prediction Center (301-763-8000, Ext. 7503)

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
AL	BIRMINGHAM	52	31	65	22	41	-4	0.30	-0.64	0.27	1.59	57	63.87	122	88	46	0	3	2	0
	HUNTSVILLE	48	30	63	24	39	-4	0.46	-0.76	0.43	2.09	58	54.66	98	84	60	0	5	3	0
	MOBILE	59	33	74	28	46	-6	0.00	-0.97	0.00	1.92	64	69.62	108	76	44	0	4	0	0
	MONTGOMERY	55	30	69	23	43	-5	0.44	-0.64	0.41	2.32	71	49.17	93	88	49	0	4	3	0
AK	ANCHORAGE	26	14	30	10	20	3	0.43	0.20	0.34	0.96	143	15.53	99	93	83	0	7	2	0
	BARROW	-5	-10	3	-15	-8	3	0.04	0.04	0.02	0.04	400	5.77	143	80	78	0	7	2	0
	FAIRBANKS	2	-17	8	-19	-8	-2	0.00	-0.17	0.00	0.00	0	13.18	131	82	79	0	7	0	0
	JUNEAU	38	33	43	26	35	6	2.46	1.23	0.59	3.42	99	51.73	92	96	85	0	4	6	1
	KODIAK	35	21	39	14	28	-2	1.50	-0.22	0.46	7.52	159	82.58	114	88	76	0	5	5	0
	NOME	13	-3	20	-10	5	-3	0.16	-0.05	0.11	0.36	55	17.12	106	89	84	0	7	2	0
AZ	FLAGSTAFF	45	17	57	10	31	1	0.00	-0.39	0.00	0.53	48	17.52	79	74	21	0	7	0	0
	PHOENIX	70	44	78	38	57	3	0.00	-0.19	0.00	0.10	19	6.75	85	43	22	0	0	0	0
	TUCSON	70	39	80	29	54	2	0.00	-0.23	0.00	0.09	15	10.02	85	37	17	0	1	0	0
	YUMA	69	46	74	43	57	0	0.00	-0.09	0.00	0.00	0	3.56	128	42	32	0	0	0	0
AR	FORT SMITH	55	30	66	23	43	3	0.05	-0.67	0.05	1.19	50	27.60	64	88	44	0	4	1	0
	LITTLE ROCK	56	31	64	26	43	0	0.13	-0.89	0.13	1.77	55	37.33	75	84	40	0	5	1	0
CA	BAKERSFIELD	64	38	71	31	51	4	0.02	-0.13	0.02	0.21	51	4.36	71	81	64	0	2	1	0
	FRESNO	59	38	66	33	49	4	0.60	0.32	0.35	1.25	169	7.47	70	94	75	0	0	3	0
	LOS ANGELES	69	48	78	42	59	2	0.10	-0.29	0.10	0.28	28	9.85	80	66	39	0	0	1	0
	REDDING	56	35	66	31	46	1	0.61	-0.41	0.31	5.50	199	30.57	97	93	83	0	3	3	0
	SACRAMENTO	56	38	61	33	47	2	0.85	0.33	0.37	2.22	154	12.65	75	99	58	0	0	3	0
	SAN DIEGO	68	47	73	43	58	1	0.00	-0.27	0.00	0.13	19	8.72	86	77	36	0	0	0	0
	SAN FRANCISCO	57	44	59	38	51	2	0.53	-0.09	0.48	3.03	179	15.36	81	85	73	0	0	2	0
	STOCKTON	56	37	58	31	46	1	0.90	0.52	0.33	2.02	189	8.43	64	98	92	0	2	3	0
CO	ALAMOSA	34	-2	39	-12	16	-1	0.00	-0.06	0.00	0.03	18	6.23	88	83	54	0	7	0	0
	CO SPRINGS	52	18	63	6	35	6	0.00	-0.08	0.00	0.04	20	12.38	72	68	19	0	7	0	0
	DENVER INTL	50	21	60	8	36	7	0.01	-0.05	0.01	0.12	75	13.92	103	68	31	0	7	1	0
	GRAND JUNCTION	38	17	43	12	28	0	0.02	-0.08	0.02	0.48	178	6.52	75	78	61	0	7	1	0
	PUEBLO	58	13	70	1	35	5	0.00	-0.08	0.00	0.05	24	11.57	95	57	37	0	7	0	0
CT	BRIDGEPORT	41	27	55	23	34	0	1.89	1.14	1.11	2.63	122	46.10	108	82	55	0	7	3	2
	HARTFORD	38	24	50	18	31	1	1.77	1.00	1.33	2.48	109	53.73	120	84	62	0	7	3	1
DC	WASHINGTON	42	31	51	28	36	-3	1.54	0.88	0.78	3.75	198	58.85	154	80	56	0	6	2	2
DE	WILMINGTON	41	28	49	25	35	-1	1.53	0.79	0.87	3.53	165	54.10	130	86	55	0	7	2	2
FL	DAYTONA BEACH	64	42	76	34	53	-7	1.32	0.74	1.31	1.52	91	57.30	119	94	47	0	0	2	1
	JACKSONVILLE	62	35	74	26	48	-7	0.49	-0.07	0.45	1.12	70	44.60	87	92	44	0	2	3	0
	KEY WEST	71	61	79	53	66	-6	0.26	-0.21	0.23	0.51	39	37.63	99	88	68	0	0	2	0
	MIAMI	71	54	80	46	62	-8	0.71	0.23	0.71	1.15	79	69.69	121	92	60	0	0	1	1
	ORLANDO	65	44	77	36	54	-9	1.52	1.02	1.36	1.58	107	50.88	107	90	59	0	0	2	1
	PENSACOLA	60	35	72	29	48	-6	0.01	-0.82	0.01	2.73	113	63.24	101	78	43	0	3	1	0
	TALLAHASSEE	61	31	69	25	46	-7	0.75	-0.13	0.63	1.41	58	64.82	105	90	45	0	5	2	1
	TAMPA	66	45	74	41	56	-7	1.30	0.78	1.26	1.30	88	52.12	119	91	52	0	0	2	1
	WEST PALM	70	51	78	42	61	-7	1.10	0.49	0.93	2.11	99	63.72	106	85	63	0	0	3	1
GA	ATHENS	51	30	58	25	40	-4	0.28	-0.53	0.15	1.93	85	50.06	108	83	59	0	5	4	0
	ATLANTA	51	32	61	26	41	-4	0.28	-0.52	0.24	2.03	85	52.36	107	83	53	0	4	3	0
	AUGUSTA	53	29	59	20	41	-5	0.83	0.13	0.45	1.99	111	53.03	123	82	57	0	5	2	0
	COLUMBUS	55	33	65	28	44	-5	0.23	-0.73	0.13	2.12	76	55.81	119	87	39	0	2	3	0
	MACON	56	31	62	23	43	-4	3.23	2.37	2.89	4.52	188	57.80	133	86	37	0	4	4	1
	SAVANNAH	58	35	66	26	47	-4	0.66	0.04	0.64	1.46	92	46.32	96	88	54	0	1	2	1
HI	HILO	79	65	84	62	72	0	0.57	-1.61	0.33	7.38	100	88.50	72	83	70	0	0	6	0
	HONOLULU	81	69	84	65	75	0	0.01	-0.64	0.01	2.83	161	10.74	62	71	61	0	0	1	0
	KAHULUI	80	65	82	58	72	-1	0.43	-0.25	0.43	2.09	115	12.56	72	80	71	0	0	1	0
	LIHUE	78	67	79	62	73	0	0.07	-0.99	0.03	3.74	124	36.47	97	77	66	0	0	4	0
ID	BOISE	44	29	51	27	37	7	0.07	-0.22	0.06	0.74	85	9.53	82	78	64	0	7	2	0
	LEWISTON	45	32	47	30	39	5	0.43	0.21	0.36	1.49	229	13.78	112	87	71	0	5	2	0
	POCATELLO	39	18	48	14	29	4	0.02	-0.20	0.02	0.47	72	7.23	60	84	68	0	7	1	0
IL	CHICAGO/O'HARE	32	20	43	10	26	-1	0.01	-0.52	0.01	1.65	100	31.76	89	85	67	0	7	1	0
	MOLINE	35	19	45	5	27	1	0.10	-0.38	0.08	2.70	185	31.77	85	88	70	0	7	2	0
	PEORIA	34	20	45	6	27	0	0.24	-0.28	0.19	1.31	78	30.92	88	90	67	0	7	3	0
	ROCKFORD	32	19	41	11	25	1	0.00	-0.44	0.00	3.05	216	25.56	71	82	72	0	7	0	0
	SPRINGFIELD	36	22	47	10	29	-1	0.10	-0.46	0.04	0.70	41	34.40	99	87	70	0	7	4	0
IN	EVANSVILLE	40	28	52	19	34	-1	0.04	-0.72	0.03	0.29	12	39.55	92	84	73	0	6	2	0
	FORT WAYNE	31	22	43	14	27	-1	0.20	-0.41	0.14	1.04	56	42.90	120	92	77	0	7	3	0
	INDIANAPOLIS	33	23	47	12	28	-3	0.31	-0.34	0.22	1.30	64	51.36	129	92	71	0	7	3	0
	SOUTH BEND	32	24	42	22	28	0	0.08	-0.60	0.06	0.78	38	33.81	87	88	77	0	7	3	0
IA	BURLINGTON	34	19	44	8	27	0	0.12	-0.33	0.07	3.79	261	33.59	90	96	69	0	7	4	0
	CEDAR RAPIDS	31	15	37	5	23	0	0.05	-0.25	0.04	1.08	106	30.52	93	96	71	0	7	2	0
	DES MOINES	36	23	43	16	29	5	0.04	-0.24	0.02	0.83	93	33.56	98	94	76	0	7	2	0
	DUBUQUE	30	15	37	3	23	1	0.05	-0.30	0.03	1.46	127	28.63	82	88	76	0	7	3	0
	SIOUX CITY	36	21	45	12	29	7	0.06	-0.05	0.05	0.23	56	26.04	101	89	78	0	7	2	0
	WATERLOO	31	15	37	4	23	2	0.07	-0.15	0.06	0.44	57	27.70	84	87	72	0	7	2	0
KS	CONCORDIA	41	24	49	11	33	3	0.02	-0.15	0.02	0.27	50	24.06	86	77	63	0	6	1	0
	DODGE CITY	47	24	56	17	36	3	0.02	-0.15	0.02	0.27	57	23.71	108	75	46	0	7	1	0
	GOODLAND	52	24	63	18	38	8	0.05	-0.01	0.05	0.17	85	13.40	69	69	41	0	7	1	0
	TOPEKA	45	27	54	22	36	5	0.00	-0.29	0.00	2.13	220	29.26	83	81	56	0	6	0	0

Based on 1971-2000 normals

*** Not Available

Weather Data for the Week Ending December 20, 2003

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	WICHITA	44	27	56	18	36	3	0.00	-0.28	0.00	0.84	97	32.56	109	81	62	0	5	0	0
KY	JACKSON	38	27	61	19	32	-6	1.16	0.22	0.37	2.88	101	54.30	113	99	70	0	7	6	0
	LEXINGTON	36	25	54	14	30	-6	1.10	0.19	0.67	2.62	101	52.27	118	91	81	0	7	4	1
	LOUISVILLE	40	28	53	19	34	-3	0.42	-0.39	0.28	1.50	62	48.69	113	88	62	0	6	4	0
	PADUCAH	43	27	53	21	35	-1	0.21	-0.76	0.11	0.70	23	46.55	97	90	56	0	6	4	0
LA	BATON ROUGE	61	34	67	29	48	-4	0.00	-1.16	0.00	0.36	11	41.01	67	89	35	0	3	0	0
	LAKE CHARLES	63	36	69	30	50	-3	0.01	-0.97	0.01	1.63	57	42.15	76	90	38	0	2	1	0
	NEW ORLEANS	63	38	74	35	51	-4	0.04	-1.05	0.04	0.75	22	65.12	104	80	51	0	0	1	0
	SHREVEPORT	61	32	68	25	46	-2	0.02	-0.99	0.02	1.74	59	34.80	70	77	38	0	3	1	0
ME	CARIBOU	29	11	46	0	20	4	1.82	1.11	1.51	2.31	115	38.93	107	90	71	0	7	3	1
	PORTLAND	38	19	50	7	28	1	1.97	1.04	0.79	3.22	118	37.15	84	84	55	0	7	4	2
MD	BALTIMORE	42	27	55	25	35	-1	1.41	0.67	0.78	3.93	188	61.93	152	89	64	0	7	2	2
MA	BOSTON	43	28	54	17	35	1	1.91	1.08	0.79	3.37	142	42.81	104	81	50	0	7	3	2
	WORCESTER	37	22	52	13	30	1	2.18	1.35	1.81	3.18	133	48.03	101	91	58	0	7	2	1
MI	ALPENA	32	21	38	14	27	3	0.13	-0.26	0.12	1.24	110	24.39	88	90	71	0	7	2	0
	GRAND RAPIDS	33	25	42	17	29	2	0.14	-0.43	0.09	0.72	39	32.80	90	86	68	0	7	3	0
	HOUGHTON LAKE	30	23	38	15	27	4	0.22	-0.15	0.14	1.15	103	24.64	89	89	76	0	7	3	0
	LANSING	32	23	43	14	28	1	0.20	-0.26	0.13	0.63	42	24.62	80	88	74	0	7	4	0
	MUSKEGON	34	27	44	23	31	3	0.38	-0.18	0.22	1.49	85	27.96	87	85	75	0	7	5	0
	TRAVERSE CITY	32	25	38	20	29	3	0.36	-0.22	0.29	1.39	84	27.17	84	92	70	0	7	3	0
MN	DULUTH	25	12	32	4	19	5	0.00	-0.16	0.00	0.00	0	24.56	80	89	75	0	7	0	0
	INT'L FALLS	24	7	38	-8	16	8	0.16	0.03	0.16	0.21	47	16.91	71	91	70	0	7	1	0
	MINNEAPOLIS	28	17	34	10	23	5	0.11	-0.08	0.06	0.60	92	22.74	78	87	73	0	7	3	0
	ROCHESTER	27	14	32	1	20	3	0.06	-0.13	0.03	0.41	59	22.80	73	87	78	0	7	3	0
	ST. CLOUD	27	15	33	4	21	7	0.07	-0.07	0.04	0.10	23	24.62	92	95	72	0	7	3	0
MS	JACKSON	56	31	63	25	44	-3	0.00	-1.18	0.00	1.21	36	56.75	105	83	38	0	5	0	0
	MERIDIAN	55	28	67	23	42	-7	0.03	-1.13	0.03	1.32	39	69.05	122	90	45	0	6	1	0
	TUPELO	49	30	53	24	40	-3	0.08	-1.30	0.08	1.94	49	67.50	126	83	54	0	5	1	0
MO	COLUMBIA	41	24	51	19	33	1	0.20	-0.32	0.14	1.78	102	37.98	96	90	63	0	7	3	0
	KANSAS CITY	42	26	51	21	34	3	0.02	-0.32	0.02	1.78	159	27.56	74	87	63	0	7	1	0
	SAINT LOUIS	42	27	55	20	35	2	0.04	-0.56	0.03	1.12	57	44.83	118	86	67	0	6	2	0
	SPRINGFIELD	46	27	58	20	36	1	0.17	-0.50	0.16	2.63	114	41.15	93	82	65	0	5	2	0
MT	BILLINGS	47	28	54	21	37	11	0.08	-0.06	0.08	0.26	72	9.26	64	62	31	0	6	1	0
	BUTTE	33	7	39	-1	20	3	0.06	-0.05	0.06	0.32	103	9.74	78	88	51	0	7	1	0
	GLASGOW	33	12	40	1	22	7	0.00	-0.08	0.00	0.22	122	10.15	92	89	78	0	7	0	0
	GREAT FALLS	46	26	56	18	36	12	0.00	-0.14	0.00	0.02	6	10.14	70	65	31	0	5	0	0
	HAVRE	44	22	51	16	33	14	0.03	-0.08	0.03	0.06	21	9.63	86	77	54	0	7	1	0
	KALISPELL	32	12	39	4	22	-1	0.26	-0.10	0.21	0.99	94	12.13	73	92	85	0	7	4	0
	MISSOULA	34	21	43	15	27	4	0.05	-0.20	0.05	0.49	70	13.67	102	92	78	0	7	1	0
NE	GRAND ISLAND	46	22	57	16	34	9	0.01	-0.10	0.01	0.02	5	16.47	64	81	49	0	7	1	0
	LINCOLN	40	23	47	15	32	6	0.01	-0.16	0.01	0.15	26	25.72	92	83	64	0	6	1	0
	NORFOLK	41	22	53	17	32	9	0.02	-0.09	0.02	0.11	25	22.12	84	84	65	0	7	1	0
	NORTH PLATTE	50	14	64	10	32	6	0.00	-0.08	0.00	0.00	0	18.33	94	92	36	0	7	0	0
	OMAHA	37	23	44	15	30	5	0.14	-0.03	0.12	0.82	130	23.33	78	86	72	0	6	2	0
	SCOTTSBLUFF	43	18	54	11	30	5	0.00	-0.11	0.00	0.39	111	9.74	60	86	72	0	7	0	0
	VALENTINE	43	17	55	7	30	7	0.01	-0.05	0.01	0.23	115	15.45	80	84	64	0	7	1	0
NV	ELY	42	13	55	1	28	2	0.07	-0.02	0.05	0.21	84	7.61	78	66	44	0	7	2	0
	LAS VEGAS	56	36	60	32	46	0	0.01	-0.07	0.01	0.37	176	6.29	146	64	44	0	1	1	0
	RENO	44	27	50	21	35	2	0.73	0.54	0.43	1.09	198	4.45	62	81	69	0	6	2	0
	WINNEMUCCA	41	20	51	11	30	1	0.16	-0.01	0.16	0.73	155	7.22	90	86	63	0	7	1	0
NH	CONCORD	36	16	51	6	26	1	2.41	1.78	1.59	3.78	199	42.97	118	84	56	0	7	4	1
NJ	NEWARK	41	29	53	26	35	-1	1.90	1.14	1.45	3.91	173	55.21	123	80	53	0	6	3	1
NM	ALBUQUERQUE	48	24	53	17	36	0	0.00	-0.10	0.00	0.11	44	6.37	69	58	27	0	7	0	0
NY	ALBANY	33	20	39	12	27	-1	1.92	1.35	0.95	3.07	176	43.94	118	91	62	0	7	3	2
	BINGHAMTON	31	19	46	12	25	-2	0.92	0.26	0.58	2.33	115	43.09	114	95	82	0	7	4	1
	BUFFALO	35	26	50	23	31	2	1.12	0.28	0.49	1.66	66	35.00	89	90	61	0	7	4	0
	ROCHESTER	35	23	53	20	29	0	0.99	0.40	0.44	2.02	113	31.27	95	93	77	0	7	6	0
	SYRACUSE	34	20	47	13	27	-1	0.90	0.24	0.38	2.08	98	36.60	94	95	68	0	7	7	0
NC	ASHEVILLE	42	26	53	19	34	-5	0.52	-0.20	0.32	2.31	108	59.18	129	89	65	0	7	4	0
	CHARLOTTE	47	28	54	22	38	-6	0.40	-0.29	0.22	2.37	123	62.63	148	86	51	0	7	2	0
	GREENSBORO	43	28	53	22	36	-4	0.38	-0.28	0.34	2.21	116	60.72	145	86	56	0	7	2	0
	HATTERAS	53	38	65	35	46	-4	0.84	-0.14	0.84	3.21	119	72.21	129	88	56	0	0	1	1
	RALEIGH	47	29	56	26	38	-4	1.12	0.47	0.74	3.35	183	48.78	117	86	62	0	7	2	1
	WILMINGTON	54	32	68	28	43	-5	2.38	1.56	2.24	4.34	185	63.17	114	98	52	0	5	2	1
ND	BISMARCK	40	17	51	12	28	13	0.05	-0.03	0.05	0.07	29	13.37	80	82	66	0	7	1	0
	DICKINSON	42	18	53	12	30	12	0.02	-0.04	0.02	0.02	10	13.00	80	90	48	0	7	1	0
	FARGO	26	10	32	1	18	6	0.07	-0.04	0.06	0.17	55	17.49	84	91	76	0	7	2	0
	GRAND FORKS	26	9	32	0	17	6	0.04	-0.07	0.04	0.17	55	17.28	89	94	76	0	7	1	0
	JAMESTOWN	32	12	40	6	22	9	0.21	0.13	0.21	0.34	142	14.30	78	94	71	0	7	1	0
	WILLISTON	33	11	38	3	22	9	0.03	-0.08	0.03	0.07	21	14.13	102	89	75	0	7	1	0
OH	AKRON-CANTON	32	23	46	15	28	-2	0.69	0.04	0.31	1.82	92	50.00	133	93	78	0	7	6	0
	CINCINNATI	34	24	49	13	29	-5	0.43	-0.29	0.21	1.18	56	43.64	105	93	77	0	7	4	0
	CLEVELAND	34	26	48	20	30	-1	0.79	0.10	0.23	2.03	95	40.53	108	91	72	0	7	6	0
	COLUMBUS	33	26	47	21	30	-3	0.46	-0.17	0.21	1.77	91	48.08	128	86	73	0	7	5	0
	DAYTON	32	24	47	20	28	-3	0.29	-0.39	0.14	1.18	58	42.36	110	90	73	0	7	4	0
	MANSFIELD	31	23	44	16	27	-2	0.33	-0.38	0.18	1.30	59	39.74	94	95	74	0	7	4	0

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*** Not Available

Weather Data for the Week Ending December 20, 2003

STATES AND STATIONS		TEMPERATURE °F						PRECIPITATION							RELATIVE HUMIDITY, PERCENT		NUMBER OF DAYS			
																	TEMP. °F		PRECIP	
		AVERAGE MAXIMUM	AVERAGE MINIMUM	EXTREME HIGH	EXTREME LOW	AVERAGE	DEPARTURE FROM NORMAL	WEEKLY TOTAL, IN.	DEPARTURE FROM NORMAL	GREATEST IN 24-HOUR, IN.	TOTAL, IN., SINCE Dec 1	PCT. NORMAL SINCE Dec 1	TOTAL, IN., SINCE Jan 1	PCT. NORMAL SINCE Jan 1	AVERAGE MAXIMUM	AVERAGE MINIMUM	90 AND ABOVE	32 AND BELOW	.01 INCH OR MORE	.50 INCH OR MORE
	TOLEDO	33	25	45	18	29	0	0.25	-0.33	0.13	1.40	79	35.56	110	86	75	0	7	2	0
	YOUNGSTOWN	33	24	49	18	28	-2	0.71	0.07	0.21	1.48	74	44.84	121	91	74	0	7	6	0
OK	OKLAHOMA CITY	55	28	68	23	42	3	0.00	-0.41	0.00	0.85	72	21.02	60	76	35	0	5	0	0
	TULSA	55	31	66	26	43	4	0.00	-0.51	0.00	0.65	38	39.63	95	72	48	0	5	0	0
OR	ASTORIA	52	41	59	36	46	3	1.13	-1.17	0.43	6.30	91	64.78	102	90	72	0	0	5	0
	BURNS	38	18	42	8	28	3	0.11	-0.17	0.09	1.07	135	9.25	92	94	88	0	7	3	0
	EUGENE	47	35	55	31	41	2	0.49	-1.33	0.25	6.46	117	37.09	77	95	89	0	2	6	0
	MEDFORD	50	34	65	27	42	4	0.51	-0.12	0.38	3.36	174	18.59	107	97	70	0	3	3	0
	PENDLETON	42	32	50	27	37	4	0.32	0.01	0.26	1.53	163	11.45	94	85	78	0	4	2	0
	PORTLAND	49	39	53	37	44	4	0.75	-0.51	0.37	4.99	132	35.61	101	87	78	0	0	7	0
	SALEM	48	36	53	30	42	2	0.81	-0.62	0.40	6.46	150	37.82	100	95	87	0	2	5	0
PA	ALLENTOWN	36	25	39	21	31	-1	1.57	0.85	0.96	3.27	151	55.45	126	84	65	0	7	2	2
	ERIE	35	27	52	24	31	-1	0.44	-0.39	0.12	0.81	32	39.00	94	81	66	0	7	6	0
	MIDDLETOWN	37	27	41	23	32	-1	0.60	-0.10	0.35	3.03	140	54.38	138	91	63	0	7	2	0
	PHILADELPHIA	43	29	50	26	36	-1	1.47	0.75	0.93	3.51	170	46.05	113	80	54	0	7	2	2
	PITTSBURGH	35	22	55	14	29	-3	0.44	-0.17	0.21	1.65	88	40.11	109	99	75	0	7	5	0
	WILKES-BARRE	34	23	47	20	29	-2	1.33	0.79	0.72	3.30	194	49.33	134	92	60	0	7	3	2
	WILLIAMSPORT	33	24	39	19	28	-2	1.12	0.49	0.87	3.20	162	51.79	127	89	67	0	7	2	1
RI	PROVIDENCE	43	26	54	19	35	2	2.94	2.03	1.45	5.00	189	48.88	109	75	50	0	7	3	2
SC	BEAUFORT	57	36	65	27	46	-4	0.40	-0.29	0.38	2.62	146	48.71	100	85	46	0	1	2	0
	CHARLESTON	57	35	67	26	46	-4	0.19	-0.52	0.18	1.83	96	51.00	102	83	50	0	2	2	0
	COLUMBIA	51	30	58	23	41	-5	0.44	-0.30	0.28	2.11	108	55.04	117	83	60	0	4	2	0
	GREENVILLE	48	28	57	24	38	-5	0.54	-0.30	0.40	2.56	108	63.19	130	89	51	0	7	2	0
SD	ABERDEEN	36	15	44	8	25	9	0.05	-0.02	0.05	0.15	88	21.11	105	88	72	0	7	1	0
	HURON	36	19	49	14	28	10	0.06	0.00	0.06	0.15	75	16.70	81	91	70	0	7	1	0
	RAPID CITY	47	22	61	19	35	11	0.00	-0.08	0.00	0.05	25	10.91	66	73	35	0	7	0	0
	SIOUX FALLS	33	18	41	7	26	8	0.13	0.05	0.12	0.33	100	21.32	87	86	79	0	7	2	0
TN	BRISTOL	41	26	53	15	34	-3	0.65	-0.09	0.32	2.39	110	64.88	162	95	61	0	6	5	0
	CHATTANOOGA	48	31	59	25	40	-2	0.68	-0.35	0.46	3.15	102	62.02	117	81	55	0	4	3	0
	KNOXVILLE	44	28	62	20	36	-4	0.71	-0.28	0.33	2.11	74	57.44	123	89	58	0	6	5	0
	MEMPHIS	51	32	60	28	42	-1	0.01	-1.25	0.01	1.44	37	50.43	95	81	46	0	4	1	0
	NASHVILLE	44	31	57	23	37	-3	0.38	-0.62	0.30	1.77	59	55.26	119	82	56	0	4	3	0
TX	ABILENE	63	29	74	24	46	1	0.00	-0.30	0.00	0.01	1	19.10	82	60	27	0	6	0	0
	AMARILLO	57	23	67	18	40	3	0.00	-0.13	0.00	0.03	10	13.37	69	64	20	0	7	0	0
	AUSTIN	67	28	77	23	48	-4	0.01	-0.54	0.01	0.38	25	20.55	63	66	32	0	6	1	0
	BEAUMONT	63	36	71	29	49	-5	0.03	-1.13	0.03	2.16	66	57.92	100	94	35	0	2	1	0
	BROWNSVILLE	71	42	77	35	57	-4	0.01	-0.21	0.01	0.13	18	33.65	124	91	45	0	0	1	0
	CORPUS CHRISTI	70	38	79	30	54	-4	0.00	-0.39	0.00	0.48	45	28.54	90	73	37	0	2	0	0
	DEL RIO	67	33	74	26	50	-2	0.00	-0.16	0.00	0.04	9	24.02	134	66	30	0	4	0	0
	EL PASO	56	26	62	20	41	-4	0.00	-0.17	0.00	0.00	0	4.21	46	38	20	0	6	0	0
	FORT WORTH	62	34	72	26	48	2	0.00	-0.59	0.00	0.71	44	24.35	72	73	29	0	3	0	0
	GALVESTON	63	46	70	39	54	-4	0.01	-0.73	0.01	4.88	221	38.13	90	87	44	0	0	1	0
	HOUSTON	64	37	73	31	51	-2	0.00	-0.80	0.00	1.92	82	46.20	99	81	38	0	2	0	0
	LUBBOCK	60	25	72	20	43	4	0.00	-0.14	0.00	0.00	0	8.80	48	54	22	0	6	0	0
	MIDLAND	62	30	71	24	46	2	0.00	-0.14	0.00	0.00	0	10.63	73	47	24	0	5	0	0
	SAN ANGELO	65	28	78	21	46	0	0.08	-0.13	0.00	0.08	14	19.27	94	44	25	0	6	1	0
	SAN ANTONIO	67	32	75	29	50	-2	0.00	-0.44	0.00	0.12	10	28.48	88	69	23	0	5	0	0
	VICTORIA	66	36	75	29	51	-4	0.02	-0.53	0.01	1.41	90	38.41	98	87	42	0	1	2	0
	WACO	64	33	71	26	48	0	0.00	-0.63	0.00	0.46	26	28.10	87	79	41	0	5	0	0
	WICHITA FALLS	63	30	76	22	47	5	0.00	-0.39	0.00	0.01	1	19.01	67	68	37	0	5	0	0
UT	SALT LAKE CITY	40	23	52	18	31	1	0.27	0.02	0.26	0.75	101	12.95	81	86	51	0	7	2	0
VT	BURLINGTON	30	13	41	3	22	-2	2.09	1.63	1.03	3.24	222	34.63	98	93	64	0	7	5	2
VA	LYNCHBURG	41	27	45	20	34	-4	0.97	0.27	0.68	3.11	154	58.93	140	84	53	0	7	2	1
	NORFOLK	52	33	65	27	43	-1	1.85	1.19	1.22	4.44	247	60.05	135	85	53	0	3	3	2
	RICHMOND	46	29	56	23	38	-2	0.67	-0.01	0.44	3.19	170	61.03	143	91	67	0	7	2	0
	ROANOKE	41	28	47	24	35	-4	0.27	-0.34	0.14	2.45	135	54.02	130	81	57	0	7	2	0
	WASH/DULLES	41	25	49	21	33	-2	1.07	0.41	0.73	4.01	205	64.16	158	90	67	0	7	2	1
WA	OLYMPIA	47	33	54	26	40	2	0.76	-0.97	0.49	3.89	75	50.65	105	96	85	0	3	6	0
	QUILLAYUTE	50	39	55	35	44	4	2.36	-0.86	1.05	9.06	95	90.43	93	91	86	0	0	5	2
	SEATTLE-TACOMA	49	39	54	36	44	4	0.43	-0.80	0.26	2.94	79	40.55	115	87	65	0	0	5	0
	SPOKANE	35	26	40	22	30	3	0.24	-0.25	0.12	2.22	150	14.53	91	95	82	0	7	2	0
	YAKIMA	37	23	43	20	30	2	0.04	-0.26	0.02	1.59	185	6.68	86	96	89	0	7	3	0
WV	BECKLEY	34	24	51	15	29	-5	0.58	-0.09	0.27	1.79	92	51.27	127	86	76	0	6	5	0
	CHARLESTON	39	26	61	16	33	-4	1.12	0.41	0.37	2.18	100	60.35	141	98	72	0	7	6	0
	ELKINS	35	20	52	10	28	-4	0.72	-0.03	0.42	1.97	89	50.41	112	93	66	0	7	6	0
	HUNTINGTON	40	28	65	20	34	-3	0.96	0.22	0.36	2.08	96	56.58	138	93	72	0	7	5	0
WI	EAU CLAIRE	28	15	32	2	22	5	0.03	-0.17	0.02	0.65	94	23.66	74	93	65	0	7	2	0
	GREEN BAY	30	20	36	10	25	4	0.11	-0.17	0.07	0.96	100	31.06	108	87	73	0	7	3	0
	LA CROSSE	30	17	35	6	24	3	0.12	-0.12	0.06	0.46	55	22.71	71	85	63	0	7	2	0
	MADISON	30	18	38	12	24	1	0.03	-0.32	0.03	1.78	156	31.64	98	82	68	0	7	1	0
	MILWAUKEE	32	21	41	13	26	0	0.16	-0.32	0.11	1.67	111	21.96	64	83	72	0	7	2	0
WY	CASPER	41	21	52	12	31	8	0.00	-0.11	0.00	0.17	46	12.90	101	70	48	0	7	0	0
	CHEYENNE	45	22	56	15	34	7	0.00	-0.08	0.00	0.09	33	10.26	67	60	35	0	6	0	0
	LANDER	40	14	52	7	27	6	0.04	-0.07	0.04	0.15	39	9.78	74	75	54	0	7	1	0
	SHERIDAN	45	19	57	11	32	10	0.00	-0.14	0.00	0.35	90	12.38	86	72	53	0	7	0	0

Based on 1971-2000 normals *** Not Available

NOTE: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

National Agricultural Summary

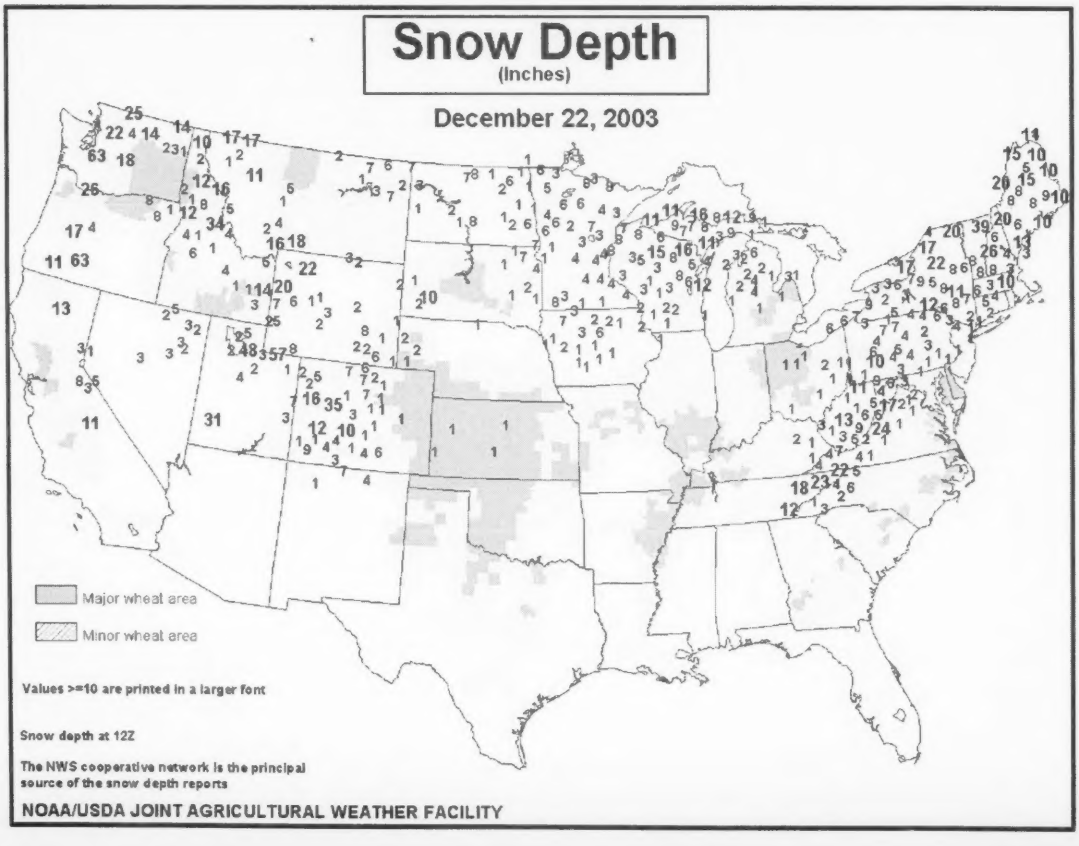
December 15 - 21, 2003

Weekly National Agricultural Summary provided by USDA/NASS

HIGHLIGHTS

Moderate to heavy precipitation fell in the Northeast during the week, causing some localized flooding in parts of New England. Coastal areas of the middle Atlantic Coast States experienced some moderate precipitation, as did peninsular Florida and the southern Appalachians. The Corn Belt, Delta, Great Plains, and Rocky Mountains were mostly dry, with only light, widely scattered precipitation. Precipitation in the Pacific Northwest was again concentrated in the coastal areas, missing most of the crop-producing areas in the region. Temperatures were mostly above normal west of the Mississippi River, with very mild temperatures in the northern and central Great Plains, melting existing snow cover on winter wheat fields. Meanwhile, temperatures were below normal across the eastern third of the nation. Freezing temperatures again extended to the Gulf Coast.

In Florida, sugarcane harvest continued and most vegetable crops remained in good condition, though some crops were hurt by heavy rainfall and cold temperatures. The cotton harvest was essentially complete in California, and seeding of small grains was active. Vegetable and citrus harvest was active and crops were generally in good condition. The cotton harvest in Arizona was still behind normal, while harvesting of fruits, vegetables, and citrus was active. In Hawaii, most crops were in good condition and progressing well, though development and harvest of some crops was slowed by cool, cloudy weather and wet soil conditions.


Snow Depth
(Inches)
December 22, 2003
Major wheat area
Minor wheat area
Values >=10 are printed in a larger font
Snow depth at 12Z
The NWS cooperative network is the principal source of the snow depth reports
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY

International Weather and Crop Summary

December 14 - 20, 2002

International Weather and Crop Highlights and Summaries provided by USDA/WAOB

HIGHLIGHTS

FSU-WESTERN: Above-normal temperatures were accompanied by widespread rain and snow, providing favorable overwintering conditions for dormant winter grains.

EUROPE: Across northern Europe, seasonably cool, wet weather favored winter grains that continued entering dormancy, and boosted moisture supplies for next year's growing season.

EASTERN ASIA: Chinese winter crops were in or nearing dormancy.

SOUTHEAST ASIA: Showers were lighter than previous weeks in Java, Indonesia, maintaining moisture supplies for rice and corn.

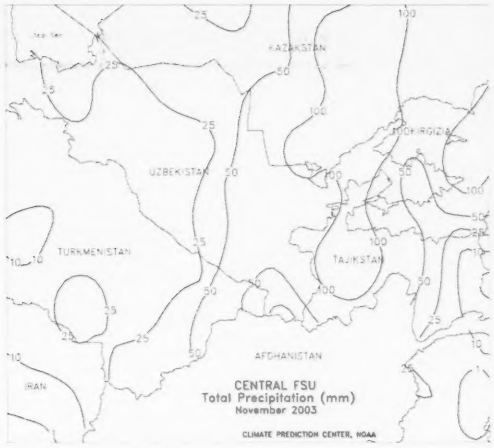
AUSTRALIA: Scattered showers in eastern Australia benefited cotton and sorghum, but rain in southern Australia delayed winter wheat and barley harvesting.

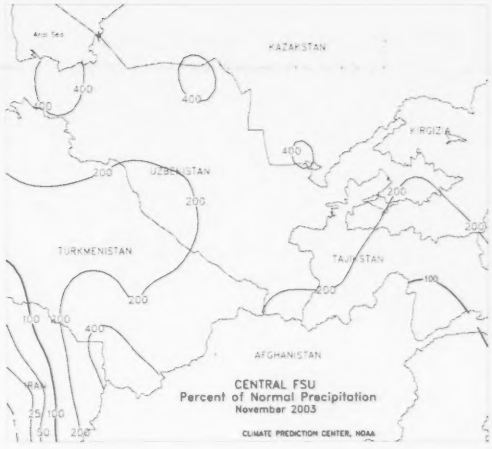
NORTHWESTERN AFRICA: Mostly dry weather prevailed across the region, favoring late winter grain planting and easing excessive wetness in northern Tunisia.

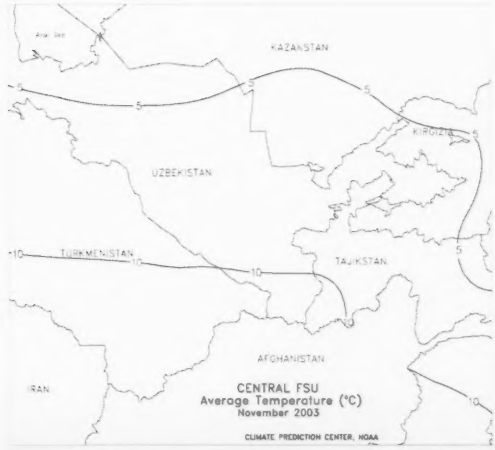
SOUTH AFRICA: Conditions remained unfavorably dry for germination and establishment of corn and other summer crops.

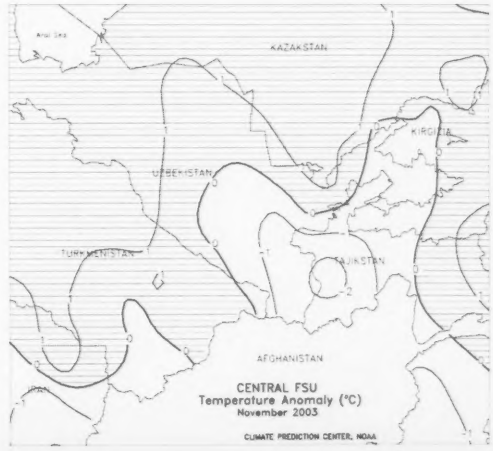
MIDDLE EAST: Across Turkey, western Iran, and the eastern Mediterranean, widespread precipitation continued to boost moisture supplies for dormant to semi-dormant winter grains.

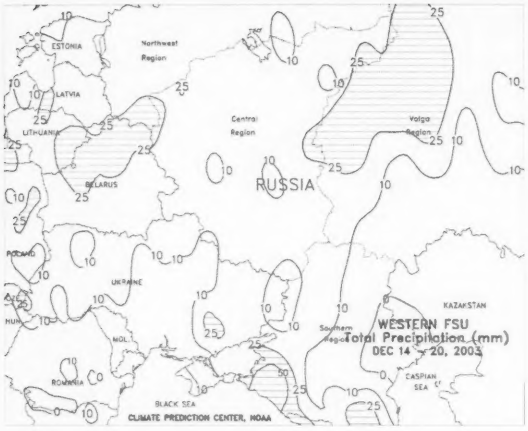
SOUTH AMERICA: Beneficial rain continued in crop areas of southern Brazil and northern Argentina, but drier, warmer weather spurred summer grain and oilseed development elsewhere.





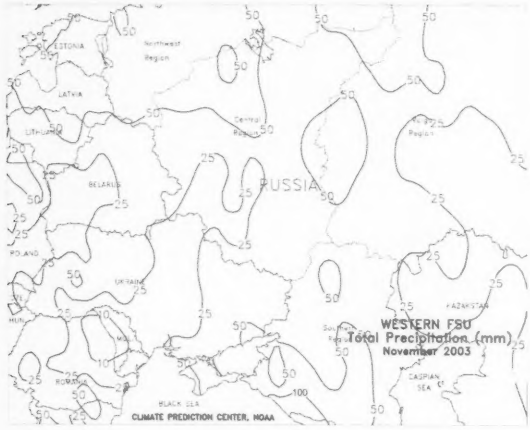


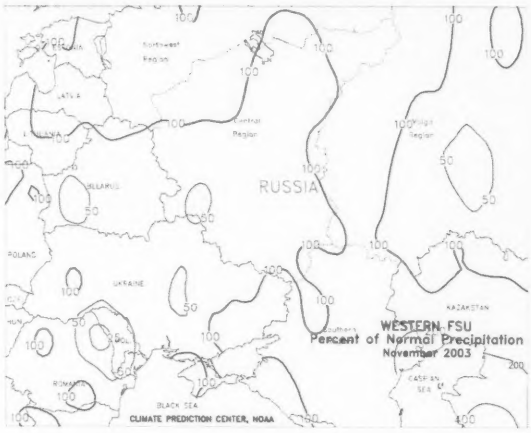


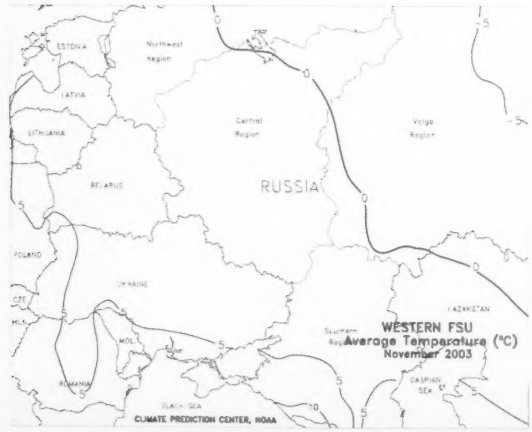


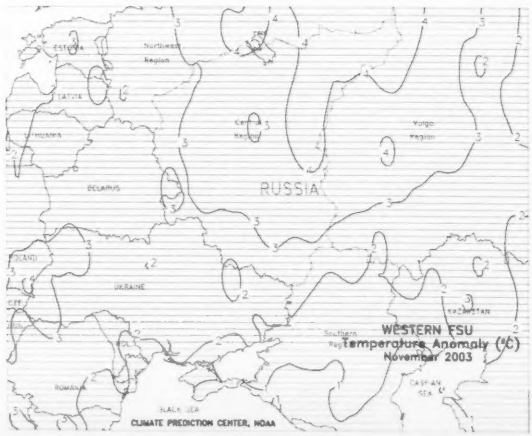
FSU-WESTERN

Above-normal temperatures continued to provide favorable overwintering conditions for dormant winter grains, but kept most major winter wheat areas in Ukraine and the Southern Region in Russia snow free. Rain gradually changed to snow in the Baltics, Belarus, and northern Russia, where total precipitation amounts ranged from 5 to 47 mm. Elsewhere, a strong winter storm developed during mid-week over the Black Sea, spreading a mixture of rain and snow (10 - 55 mm, liquid equivalent) across eastern Ukraine and western portions of the Southern Region in Russia. Weekly temperatures averaged 1 to 4 degrees C above normal in Ukraine and the Southern Region in Russia, and 3 to 6 degrees C above normal in the Baltics, Belarus, and northern Russia. Despite the mild weather pattern, weekly average temperatures remained below 5 degrees C in most areas, keeping winter grains dormant. Extreme minimum temperatures ranged from -9 to -5 degrees C in the Baltics, Belarus, Ukraine, and Southern Region. Across eastern portions of the Central Region and Volga Region, extreme minimum temperatures generally ranged from -15 to -10 degrees C. Bitterly cold weather (-20 degrees C or colder) was confined to far northern portions of Russia. At week's end, a warming trend melted most of the protective snow cover in the Baltics and Belarus, while a deep protective snow cover persisted across northern Russia. In November, weather conditions allowed late season fieldwork and favored winter grains in Russia, Ukraine, Belarus, the Baltics, and Moldova. Monthly temperatures in these areas averaged 1 to 3 degrees C above normal. Winter grains in Belarus, the Baltics, and northern Russia remained dormant in November, while temperatures in major winter wheat producing areas of Ukraine and the Southern Region in Russia supported additional crop development during the first half of the month. Crops in these areas began easing into dormancy during the second half of November. Despite a lack of planting moisture in September in parts of Ukraine and the Southern Region in Russia, mild weather and adequate moisture in October and November favored winter grain establishment, and crops entered dormancy in much better condition than last year. Above-normal precipitation in November helped recharge low soil moisture reserves in extreme eastern Ukraine and the Southern Region in Russia.

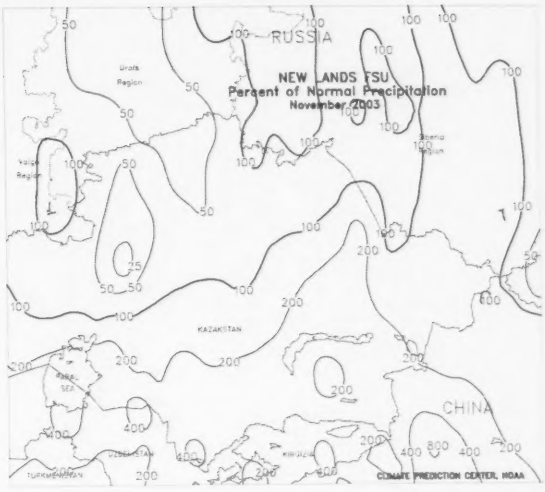


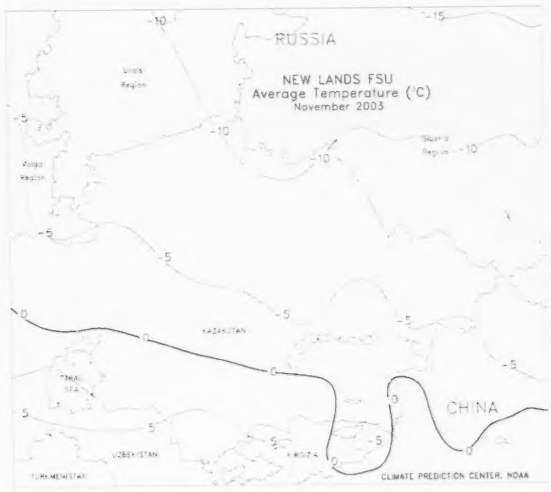


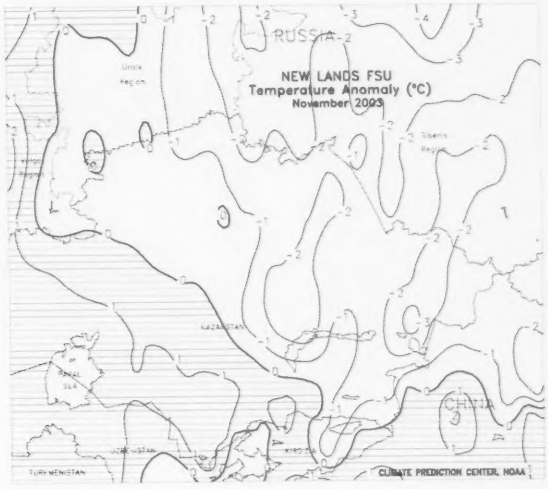




RUSSIA
NEW LANDS FSU
Total Precipitation (mm)
November 2003
Urals Region
Volga Region
Siberia Region
KAZAKHSTAN
CHINA
UZBEKISTAN
TURKMENISTAN
CLIMATE PREDICTION CENTER, NOAA


RUSSIA
NEW LANDS FSU
Percent of Normal Precipitation
November 2003
Urals Region
KAZAKHSTAN
CHINA
CLIMATE PREDICTION CENTER, NOAA


RUSSIA
NEW LANDS FSU
Average Temperature (°C)
November 2003
Urals Region
Volga Region
KAZAKHSTAN
CHINA
UZBEKISTAN
TURKMENISTAN
CLIMATE PREDICTION CENTER, NOAA

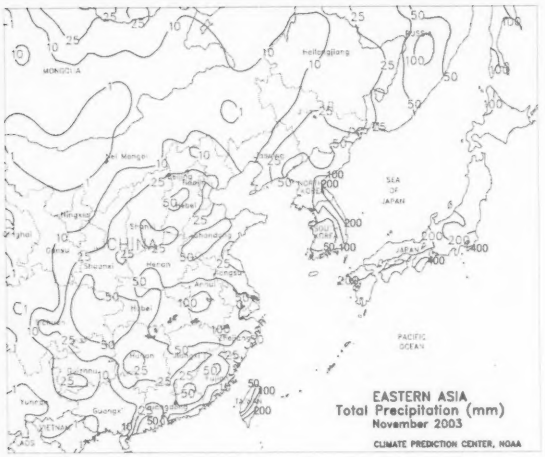

RUSSIA
NEW LANDS FSU
Temperature Anomaly (°C)
November 2003
Urals Region
KAZAKHSTAN
CHINA
CLIMATE PREDICTION CENTER, NOAA

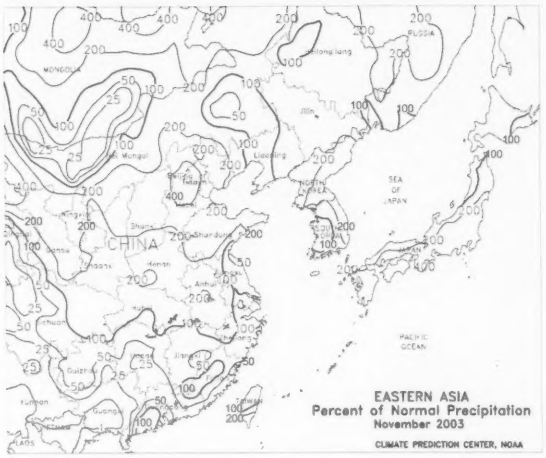
EUROPE

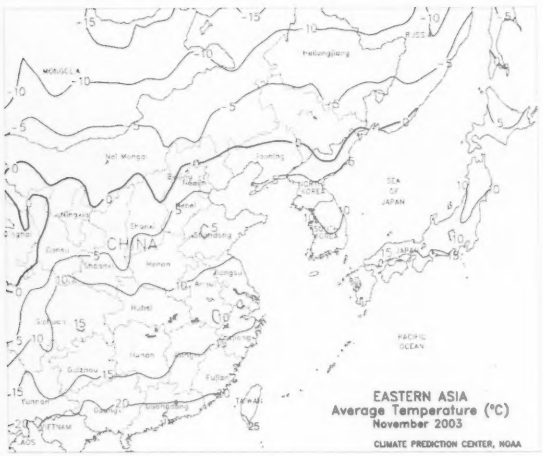
Seasonably cool, wet weather (10-25 mm) prevailed across northern Europe (from England to Poland), favoring winter grains that continued entering dormancy, and boosting moisture supplies for next year's growing season. Early in the week, snow fell from Germany eastward to Poland, increasing snow cover. However, a warming trend at week's end melted most of the snow cover, except in the Czech Republic and the lower elevations of the Alps. Light rain (3-15 mm) fell across portions of southwestern France and the western Iberian Peninsula. Although dry weather prevailed across western and southern Europe, moisture supplies remained adequate for winter crop development. Temperatures averaged near to slightly above normal across Europe. While most of the continent reported below freezing minimum temperatures, there were no unusual freezes in any of the temperature-sensitive citrus or tree crop areas of the Mediterranean coastal regions. In addition, minimum temperatures remained above –10 degrees C across the major winter grain and oilseed areas. During November, near- to above-normal rainfall continued to favor winter grain establishment across western and southern Europe, especially in England and northern Italy. Below-normal rainfall reduced moisture supplies in Germany, while adequate soil moisture existed for crop establishment elsewhere in central and eastern Europe. Monthly temperatures averaged 1 to 3 degrees C above normal across the region.

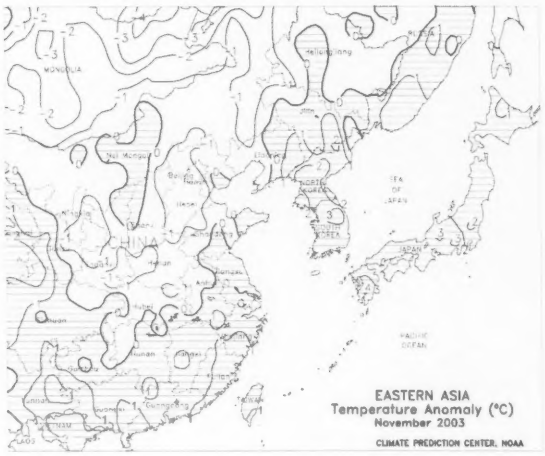
EASTERN ASIA

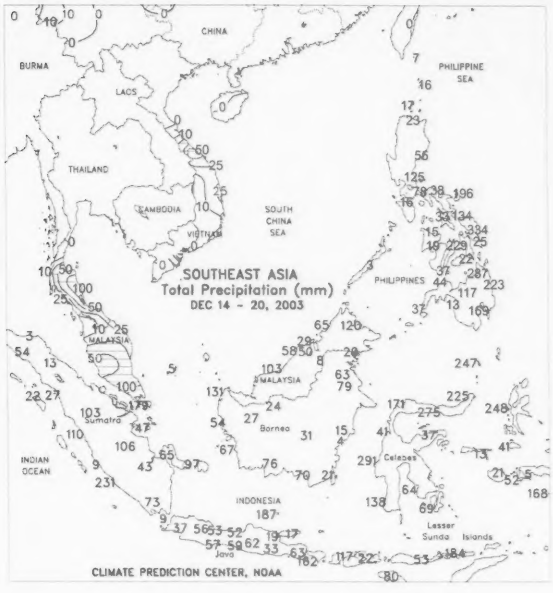
Mostly dry, cooler-than-normal weather dominated central and southern China, inducing cold hardening and dormancy in winter crops. Temperatures averaged 5 degrees C or lower in most major winter wheat areas of the North China Plain, and freezing temperatures were recorded in most rapeseed areas of the middle and lower Yangtze Valley. Of the major winter crop areas, only the Sichuan Basin stayed above freezing. In fact, freezing temperatures were likely in some sugarcane areas of south-central China (Hunan to Zhejiang), but somewhat warmer weather prevailed in major production areas closest to the coast. Sugarcane harvesting and planting usually occur from November to April, so the cold weather likely had little if any impact. Elsewhere, cold, dry weather continued on the Korean Peninsula but moderate to locally heavy showers (10-50 mm or more) maintained unseasonably wet conditions in central and northern Japan. In November, periodic showers increased moisture reserves for establishment of winter grains and oilseeds throughout much of central China. On the North China Plain, wheat was entering dormancy in northern growing areas by month's end. Farther south, scattered showers caused minimal fieldwork delays in coastal rice and sugarcane areas. Elsewhere, frequent, locally heavy showers caused additional disruptions in seasonal fieldwork across much of Japan and the Korean Peninsula.


EASTERN ASIA
Total Precipitation (mm)
November 2003
CLIMATE PREDICTION CENTER, NOAA


EASTERN ASIA
Percent of Normal Precipitation
November 2003
CLIMATE PREDICTION CENTER, NOAA

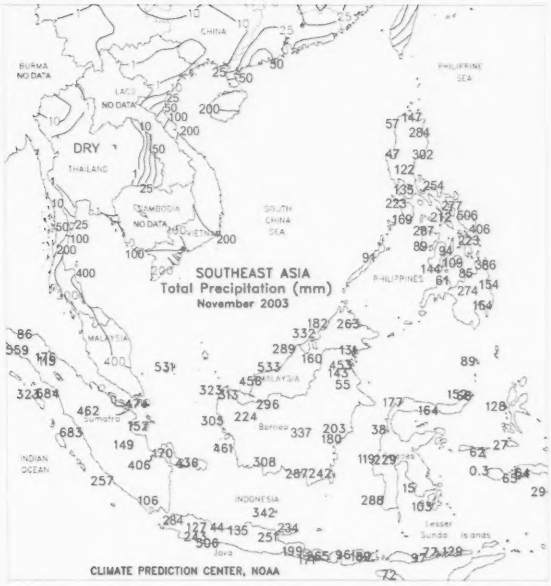

EASTERN ASIA
Average Temperature (°C)
November 2003
CLIMATE PREDICTION CENTER, NOAA

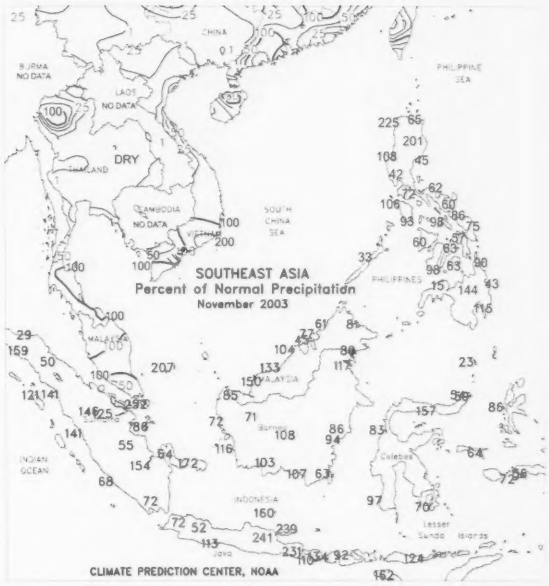

EASTERN ASIA
Temperature Anomaly (°C)
November 2003
CLIMATE PREDICTION CENTER, NOAA

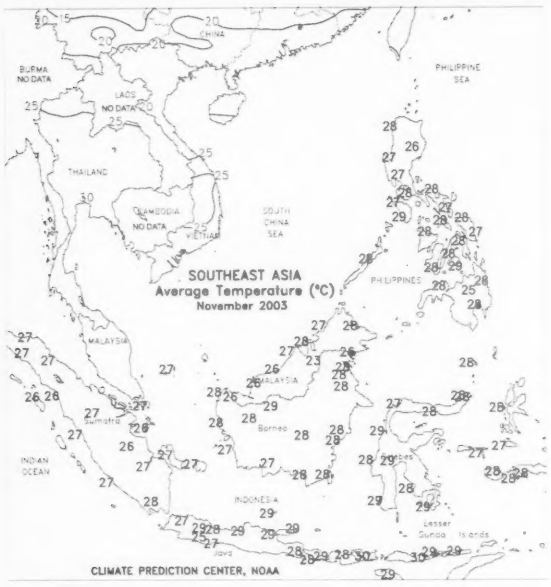


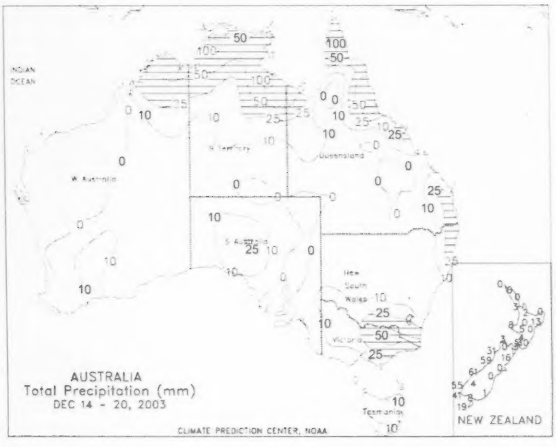
SOUTHEAST ASIA

Light to moderate showers (10-50 mm) maintained moisture supplies for main-season rice and corn in Java, Indonesia. Heavy monsoon showers (50-200 mm) fell in the eastern and southern Philippines, increasing irrigation supplies for rice and corn. In November, showers increased in eastern Java, Indonesia, boosting moisture supplies for rice and corn. Near- to above-normal rainfall favored emerging rice and corn in the Philippines. In peninsular Malaysia and Sumatra, heavy rainfall boosted moisture supplies for oil palm and other plantation crops.



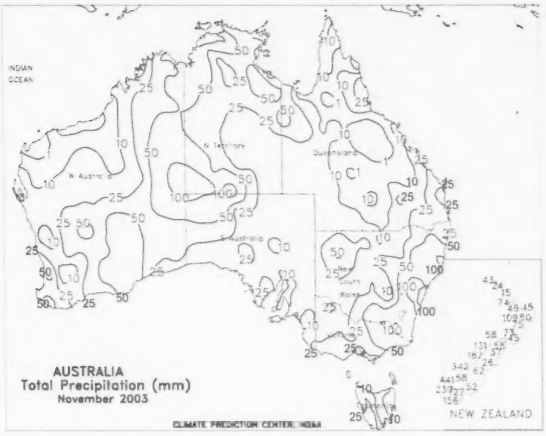


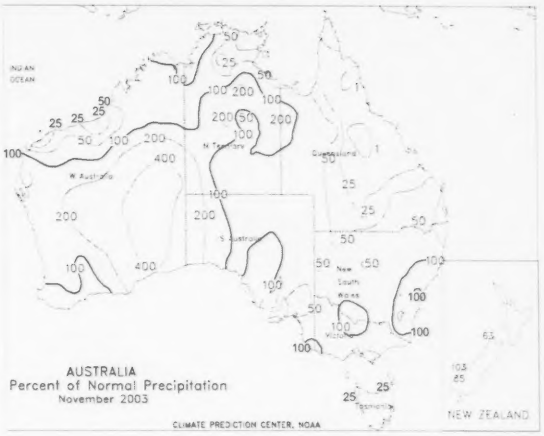


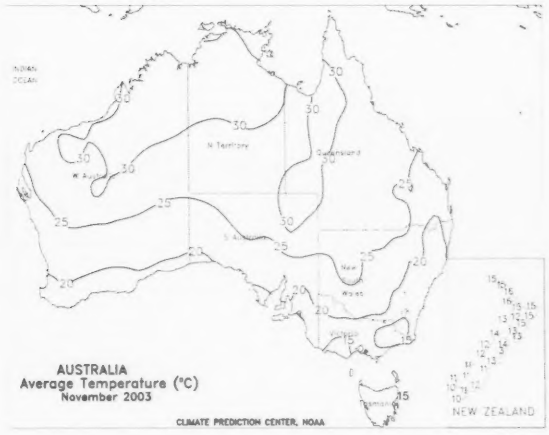


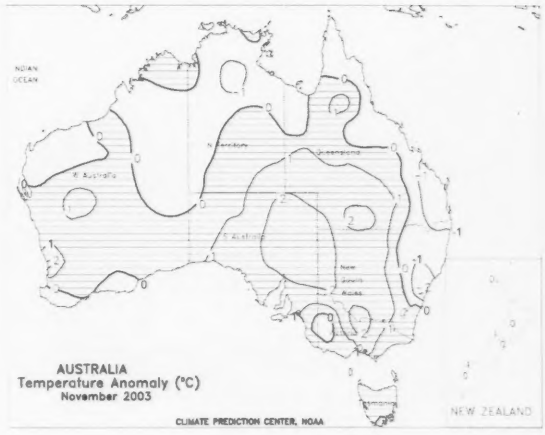
AUSTRALIA

Scattered showers overspread Western Australia during midweek, causing some delays in winter grain harvesting. The rain (2-6 mm, locally near 15 mm) was relatively light and short-lived, however, allowing fieldwork to resume soon after the precipitation ended. In South Australia, Victoria, and southern New South Wales, dry weather early in the week favored uninterrupted winter wheat and barley harvesting. During the latter half of the week, widespread rain (10-25 mm, locally near 50 mm) in Victoria and southern New South Wales halted all fieldwork and likely raised some concerns about crop quality. Farther north, scattered showers (5-13 mm, locally near 35 mm) had little impact on winter grains because most of the crop had been harvested. Nevertheless, the showers benefited sorghum, cotton, and other summer crops, further improving soil moisture and irrigation supplies for these crops. Temperatures in major summer crop producing areas were generally seasonable, while elsewhere in Australia temperatures averaged about 1 to 4 degrees C above normal. During November, near- to below-normal rainfall in Western Australia, South Australia, and Victoria favored winter grain maturation and harvesting. Dry weather in early November helped harvesting in New South Wales and Queensland, but heavy rain later in the month slowed or halted fieldwork and raised some concerns about crop quality. Despite these negative effects on winter crops, the heavy rain was beneficial for cotton and sorghum, boosting drought-reduced reservoir levels and soil moisture for irrigated and dryland summer crops.


INDIAN OCEAN
N Territory
Queensland
W Australia
S Australia
New South Wales
Victoria
Tasmania
NEW ZEALAND
AUSTRALIA
Total Precipitation (mm)
November 2003
CLIMATE PREDICTION CENTER, NOAA


INDIAN OCEAN
N Territory
Queensland
W Australia
S Australia
New South Wales
Victoria
Tasmania
NEW ZEALAND
AUSTRALIA
Percent of Normal Precipitation
November 2003
CLIMATE PREDICTION CENTER, NOAA


INDIAN OCEAN
N Territory
Queensland
W Australia
S Australia
New South Wales
Victoria
Tasmania
NEW ZEALAND
AUSTRALIA
Average Temperature (°C)
November 2003
CLIMATE PREDICTION CENTER, NOAA


INDIAN OCEAN
N Territory
Queensland
W Australia
S Australia
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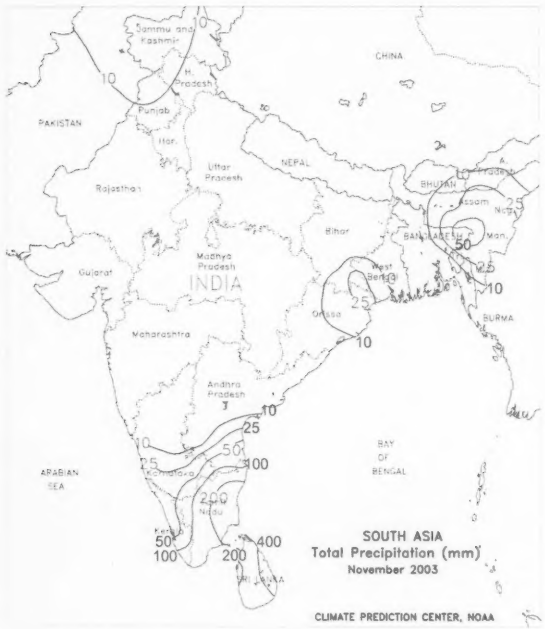
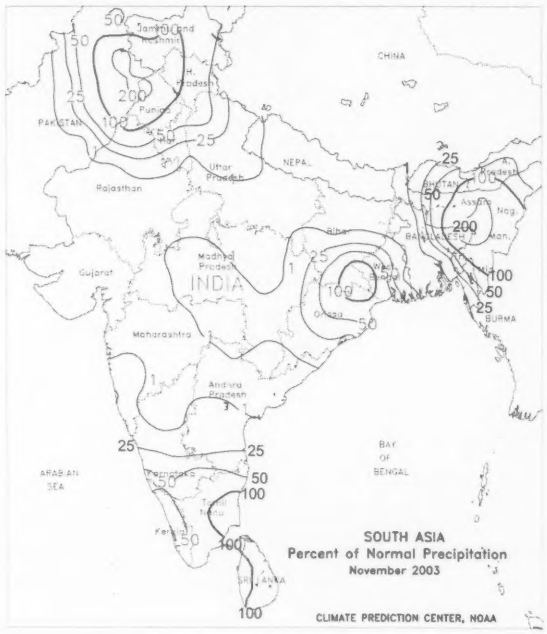
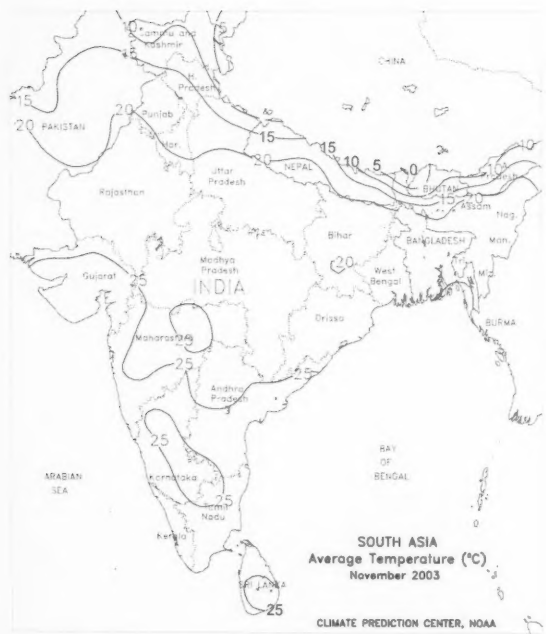
Victoria
Tasmania
NEW ZEALAND
AUSTRALIA
Temperature Anomaly (°C)
November 2003
CLIMATE PREDICTION CENTER, NOAA

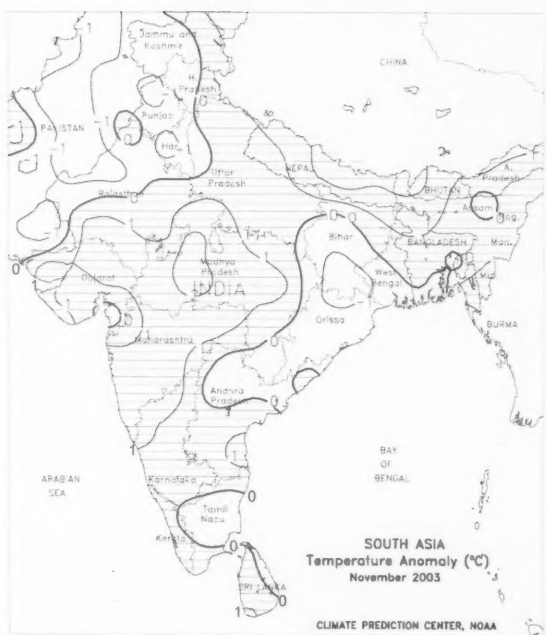
SOUTH ASIA

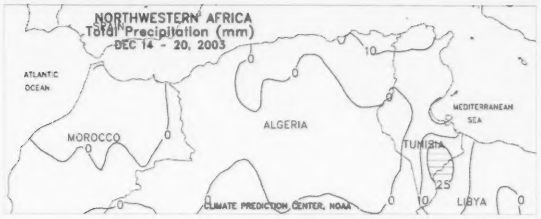
Tropical storm 03B made landfall in east-central India on December 15. The storm brought heavy showers (50-100 mm or more), causing some flooding in winter rice areas of Orissa and Andhra Pradesh. In November, seasonably dry weather favored summer crop drydown and harvesting in central and southern India. Above-normal rainfall boosted irrigation supplies for winter grains in northern India.





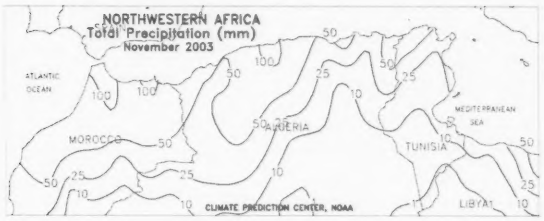


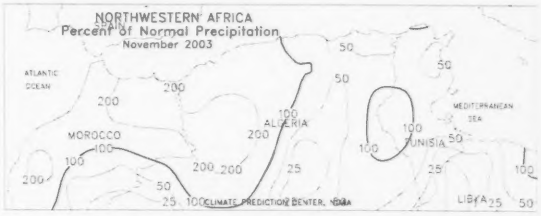


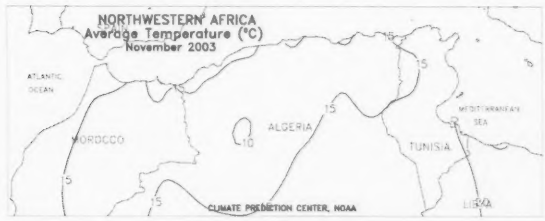


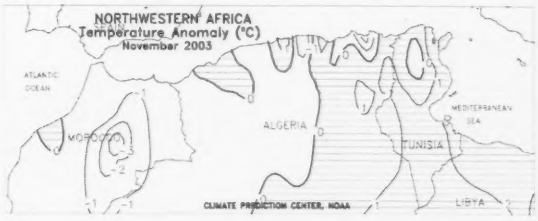
NORTHWESTERN AFRICA

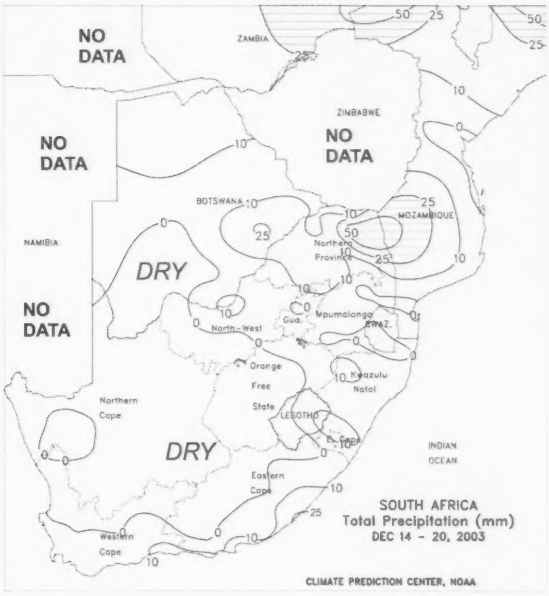
Mostly dry weather prevailed in Morocco and Algeria, favoring late winter grain planting. Drier weather prevailed in northern Tunisia (precipitation amounts around 10 mm), easing excessive wetness. Typically, winter grain planting is virtually completed by the end of December. Temperatures averaged near normal, favoring winter crop development. During November, near- to above-normal rainfall boosted topsoil moisture for winter grain planting across Morocco and Algeria, but excessive moisture slowed fieldwork in portions of northern Morocco. In Tunisia, below-normal rainfall helped winter crop planting.





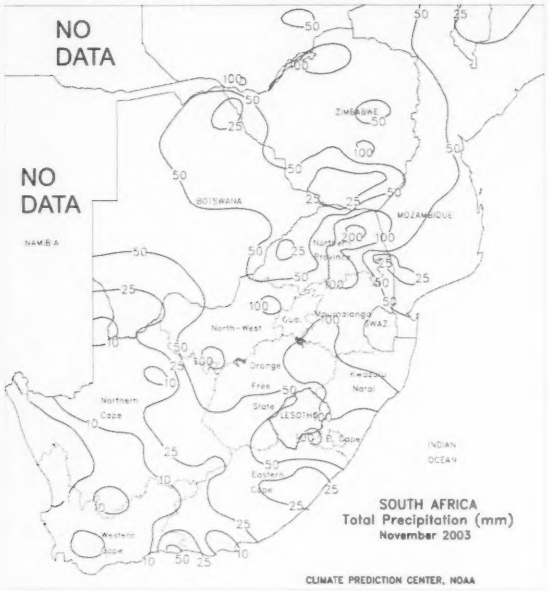






SOUTH AFRICA

Unseasonable warmth and dryness persisted throughout most major agricultural areas, including primary commercial corn areas of North West, Free State, and Mpumalanga. Temperatures frequently hit the middle 30s in traditional white corn areas of the western and central corn belt, stressing emerging summer crops and discouraging additional fieldwork. Rain is urgently needed to prevent significant declines in yield potential and area, as planting typically ends in the first week of January and late-planted crops usually result in lower production. Mostly dry, warm weather also maintained high moisture demands in sugarcane areas in and around Kwazulu-Natal, and fruit and vegetable areas of Western and Eastern Cape Provinces. In November, scattered showers helped to condition fields for summer crop planting across the corn belt, but amounts were insufficient for replenishment of moisture reserves. In addition, above-normal temperatures maintained high evaporation rates and moisture was limited in most locations for even germination and proper establishment.


NO DATA
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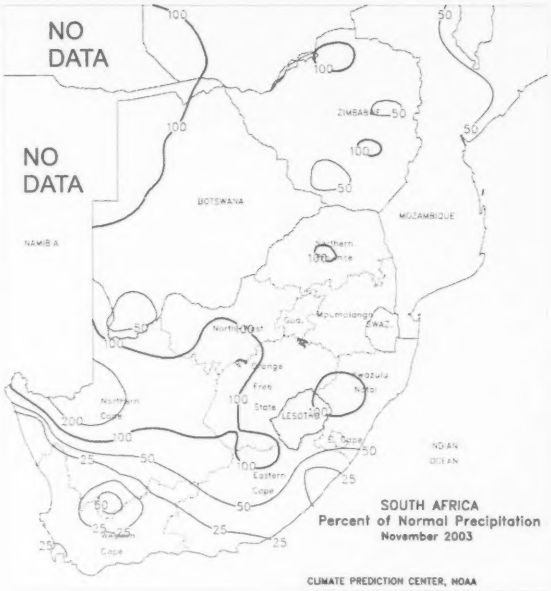
ZIMBABWE
BOTSWANA
MOZAMBIQUE
NAMIBIA
Northern Province
North-West
Gauteng
Mpumalanga
KwaZulu Natal
Orange Free State
LESOTHO
E. Cape
Northern Cape
Eastern Cape
Western Cape
INDIAN OCEAN
SOUTH AFRICA
Total Precipitation (mm)
November 2003
CLIMATE PREDICTION CENTER, NOAA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NAMIBIA
Northern Province
North-West
Gauteng
Mpumalanga
KwaZulu Natal
Orange Free State
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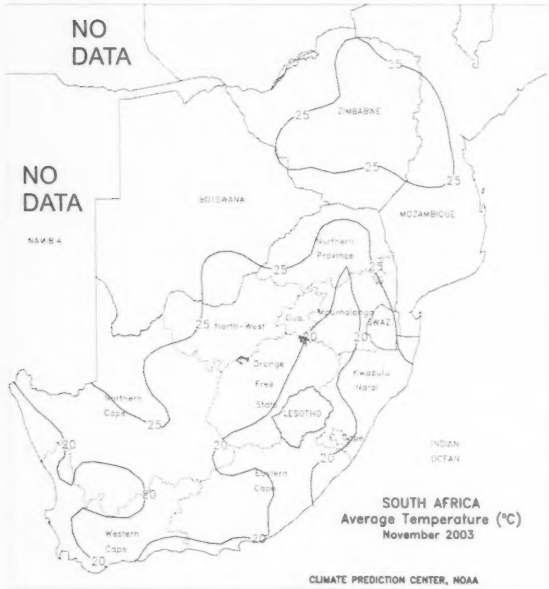
E. Cape
Northern Cape
Eastern Cape
Western Cape
INDIAN OCEAN
SOUTH AFRICA
Percent of Normal Precipitation
November 2003
CLIMATE PREDICTION CENTER, NOAA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ZIMBABWE
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Northern Province
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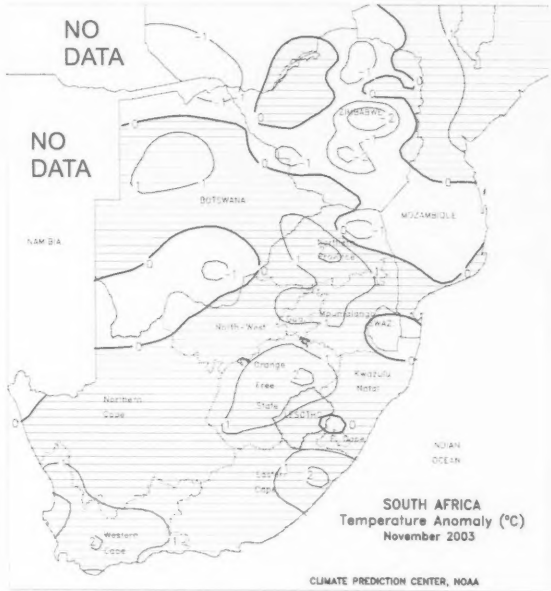
INDIAN OCEAN
SOUTH AFRICA
Average Temperature (°C)
November 2003
CLIMATE PREDICTION CENTER, NOAA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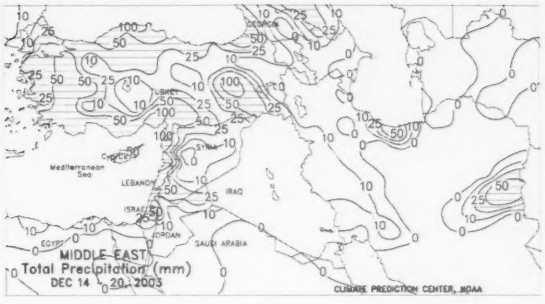
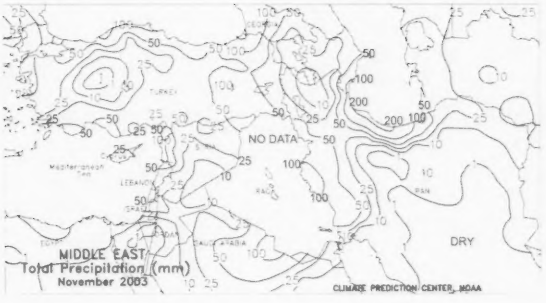
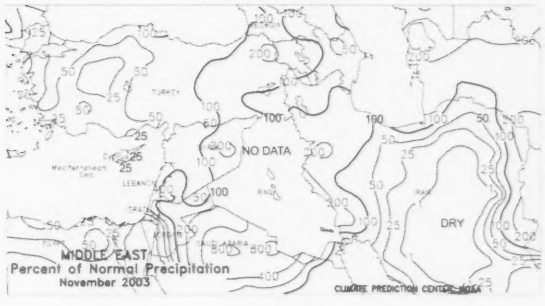
Temperature Anomaly (°C)
November 2003
CLIMATE PREDICTION CENTER, NOAA

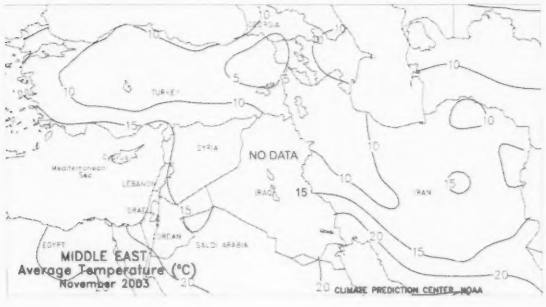


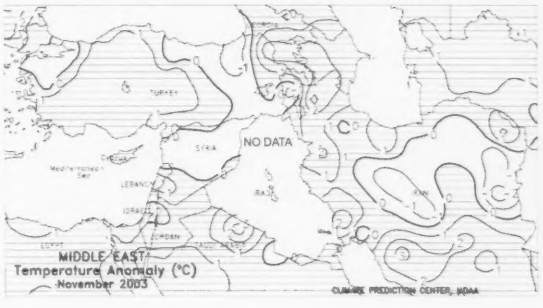
MIDDLE EAST

Across Turkey, widespread precipitation (10-50 mm or more of water equivalent moisture) continued to boost moisture supplies for next year's spring growth. Across the main wheat areas of the central Turkish Plateau, maximum temperatures fell from readings that ranged from 9 to 14 degrees C early in week to -4 to 2 degrees C by week's end. The late-week cold weather and moisture produced a light to moderate protective snow cover across central and eastern Turkey. Winter wheat remained dormant across central Turkey. Across western Iran, lighter, but still beneficial rain (5-20 mm) increased moisture supplies for dormant to semi-dormant winter grains. Widespread rain (10-30 mm) boosted moisture supplies for winter crops across the most of the eastern Mediterranean, with the heavier amounts confined to coastal locations (40-100 mm or more). In northern Iraq, rainfall reports from the surrounding areas and satellite imagery suggest that light to moderate rain fell across the region, increasing moisture supplies for winter grains. Temperatures averaged 2 to 4 degrees C above normal across eastern Turkey and western Iran, 1 to 3 degrees C below normal across western Turkey, and near normal across the eastern Mediterranean. In November, below-normal rainfall favored cotton harvesting across western and central Turkey. Adequate soil moisture existed for Turkish winter grains in or entering dormancy. Across western Iran and the eastern Mediterranean, above-normal November rainfall boosted soil moisture for winter grain germination and establishment.

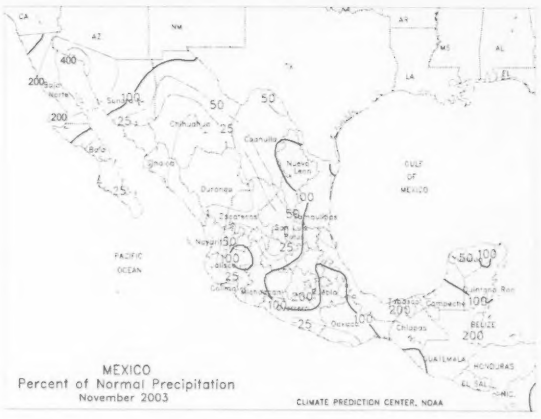


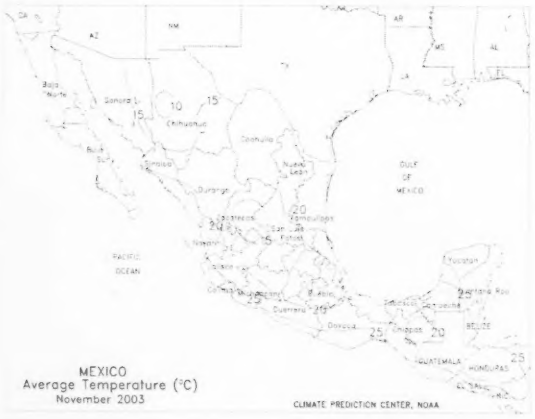


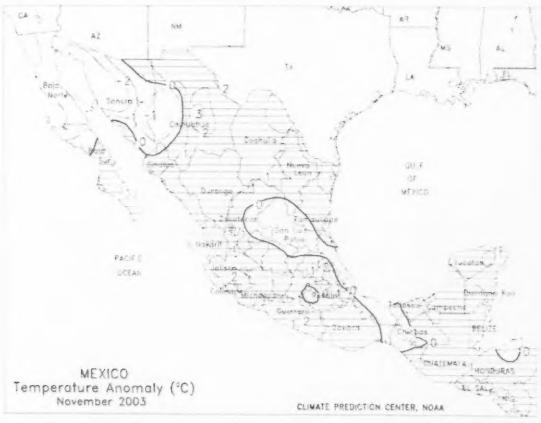


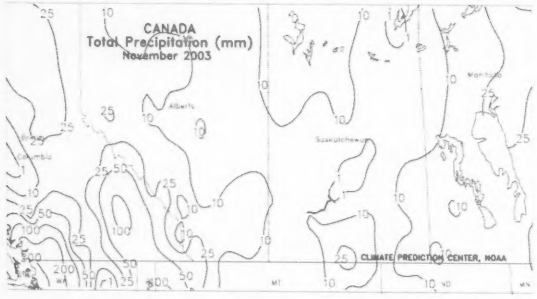


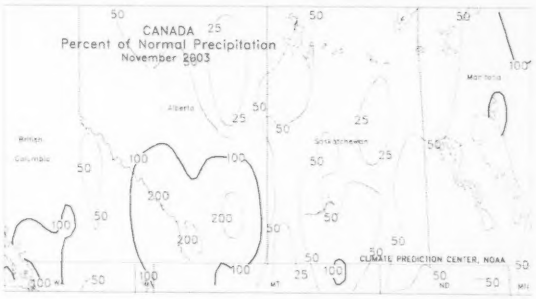
MEXICO
Total Precipitation (mm)
November 2003
CLIMATE PREDICTION CENTER, NOAA


MEXICO
Percent of Normal Precipitation
November 2003
CLIMATE PREDICTION CENTER, NOAA


MEXICO
Average Temperature (°C)
November 2003
CLIMATE PREDICTION CENTER, NOAA


MEXICO
Temperature Anomaly (°C)
November 2003
CLIMATE PREDICTION CENTER, NOAA


CANADA
Total Precipitation (mm)
November 2003
CLIMATE PREDICTION CENTER, NOAA


CANADA
Percent of Normal Precipitation
November 2003
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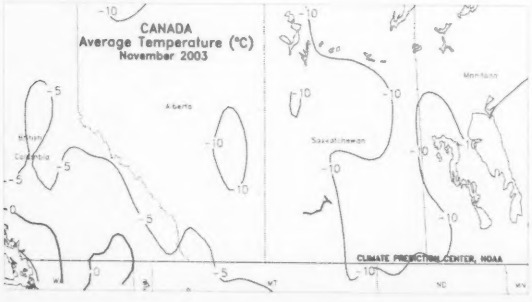
CANADA
Average Temperature (°C)
November 2003
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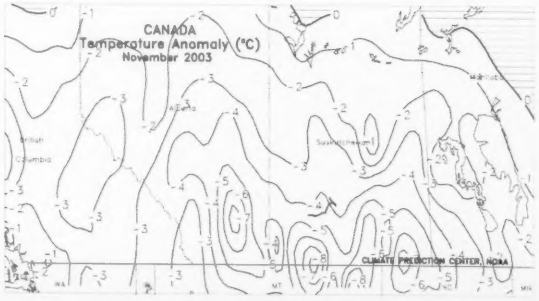
CANADA
Temperature Anomaly (°C)
November 2003
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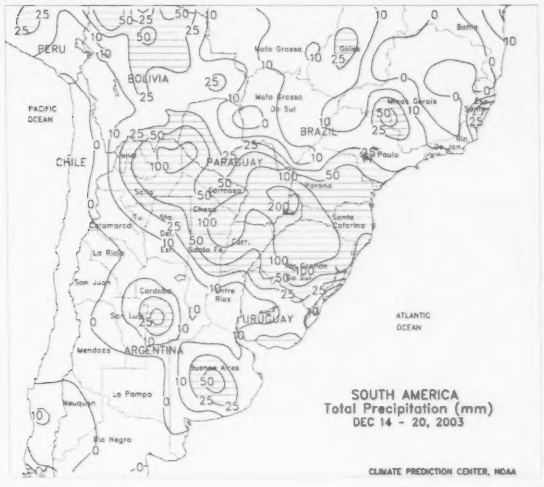
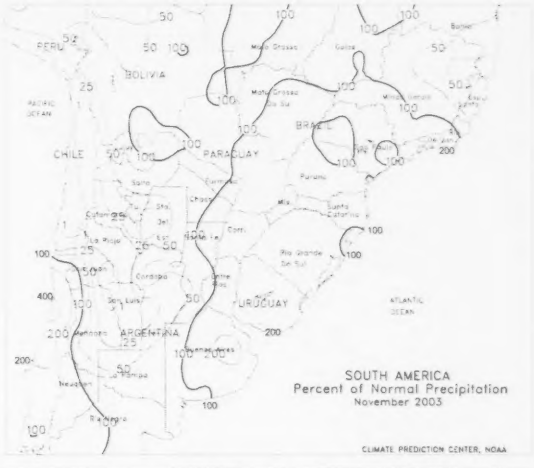


SOUTH AMERICA

In Argentina, moderate to heavy rain (25-100 mm or more) continued in northern growing areas (Santa Fe and Corrientes northwestward through Chaco and Formosa), keeping newly planted cotton and other summer crops abundantly watered. Scattered showers fell in western and southern growing areas (southern Cordoba through southeastern Buenos Aires) early in the week, but sunny, warmer weather (highs eventually reaching the lower to middle 30s degrees C) spurred crop development later in the period. Little or no rain fell in primary corn and soybean areas of southern Santa Fe, Entre Rios, and neighboring locations of northern and eastern Cordoba and northern Buenos Aires. According to Argentina's Agricultural Secretariat (SAGPyA), corn, sunflowers, and soybeans were 79, 93, and 82 percent planted, respectively, as of December 19. In Brazil, beneficial rain (25-100 mm or more) in southern crop areas (Rio Grande do Sul, Santa Catarina, and Parana) maintained favorable moisture for corn and soybean establishment but likely hampered final wheat harvests. Mostly dry, warmer-than-normal weather (highs generally in the middle 30s degrees C) spurred crop development in primary soybean, coffee, and citrus areas farther north (Mato Grosso do Sul and Sao Paulo northward). During November, warmer- and drier-than-normal weather persisted in Argentina's western growing areas, hastening winter wheat maturation and causing significant delays in summer crop planting, especially in key production areas of Cordoba and La Pampa. A short-lived drying trend also began in Santa Fe, but near- to above-normal rainfall maintained generally favorable conditions for immature wheat and emerging summer crops from Buenos Airies through Entre Rios to cotton areas of Chaco and Formosa. In Brazil, frequent, occasionally heavy showers increased moisture reserves for soybeans, coffee, and citrus in most major growing areas, although pockets of unseasonable warmth and dryness prevailed in outlying areas of the northeastern interior (Minas Gerais, Goias, and Bahia).



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